HME-418

US Model
Canadian Model

STEREO MUSIC SYSTEM

SPECIFICATIONS

GENERAL

Power Requirements: 120 V ac, 60 Hz

Power Consumption: 70 W

Dimensions: Approx.
572 (w) x 243 (h) x 436 (d) mm
22⅝ (w) x 9⅝ (h) x 17¼ (d) inches
Including projecting parts and controls

Weight: Approx. 12.4 kg, 27 lb 6 oz (net)
Approx. 15 kg, 33 lb 2 oz (with shipping carton) without speakers

FM SECTION

Tuning Range: 87.5 – 108 MHz

Antenna: 300 Ω balanced terminals, equipped with ac line antenna.

Sensitivity: 2.2 μV, S/N = 30 dB

S/N Ratio: 65 dB

Stereo Separation: Better than 40 dB

Harmonic Distortion: (at 400 Hz) Mono 0.5 %
Stereo 1.0 %

AM SECTION

Tuning Range: 530 – 1,605 kHz

Antennas: Built-in ferrite-rod antenna, external antenna terminal

Sensitivity: 250 μV/m (48 dB/m), S/N = 20 dB, built-in ferrite-rod antenna

S/N Ratio: 55 dB

– continued on page 2 –

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SONY®

SERVICE MANUAL

AUDIO AMPLIFIER SECTION

Continuous RMS Power Output: (rated output) (EIA, less than 2% harmonic distortion) 15 + 15 W (8 Ω)

Harmonic Distortion: Less than 2% at continuous RMS power

Input Sensitivity and Impedance:
EXT PHONO: 2.7 mV, 47 kΩ
MIC: 1.5 mV (–54 dB), 10 kΩ
Accepts low-impedance microphones.

Output Level and Impedance:
REC OUT: 440 mV (–5 dB), 10 kΩ
HEADPHONES: Accepts 8 Ω and high impedance headphones
SPEAKER: Accepts 8 Ω speakers

Frequency Response: PHONO RIAA curve ±3 dB

Tone Controls:
BASS ±10 dB at 100 Hz
TREBLE ±10 dB at 10 kHz

Loudness Controls: +8 dB at 100 Hz, +4 dB at 10 kHz (Attenuation: 30 dB)

RECORD PLAYER SECTION

TURNTABLE (BSR C-129R2 auto/manual changer)

Platter: 28 cm (11 inches)

Speeds: 33⅓, 45, 78 rpm

Cartridge: VL-30G (moving magnet type)

Tracking Force: 3 g ±0.5 g (3 g recommended)

Stylus: ND-133G (conical, 0.5 mil diamond)

CARTRIDGE RECORDER SECTION

Recording System: 8-track 2-channel stereo/monaural

Tape Speed: 9.5 cm/s (3¾ inches)

Frequency Response: 50 – 12,000 Hz

Wow and Flutter: Less than 0.3% wrms

SPEAKER SECTION SS-420

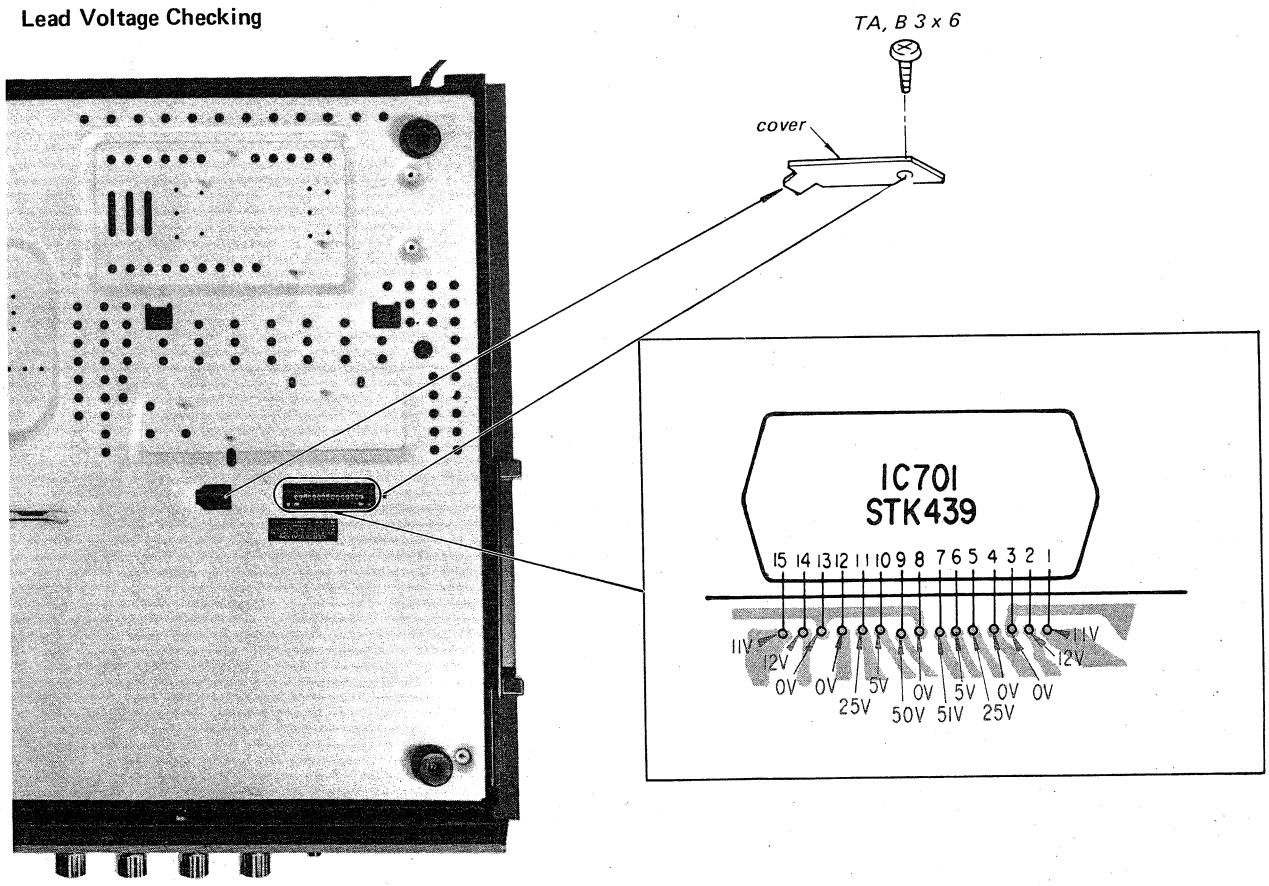
Speaker System: Two-way
Woofer 16 cm (6½"), cone type
Passive radiator 16 cm (6½"), cone type
Tweeter 5 cm (2"), cone type

Impedance: 8 Ω

Dimensions: Approx.
295 (w) x 605 (h) x 209 (d) mm
11½ (w) x 23⅞ (h) x 8¼ (d) inches

Weight: Approx.
6.7 kg, 14 lb 13 oz, per speaker (net)
16 kg, 35 lb 5 oz, pair (with shipping carton)

Power IC IC701
Lead Voltage Checking



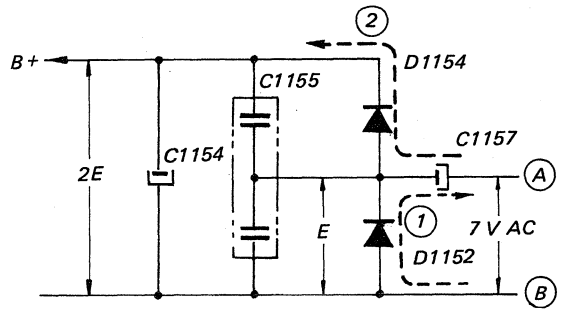
SECTION 1
OUTLINE

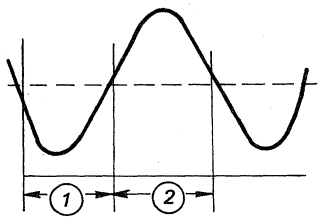
1-1. CIRCUIT DESCRIPTION

POWER SUPPLY CIRCUIT (Motor, Solenoid and Relay)

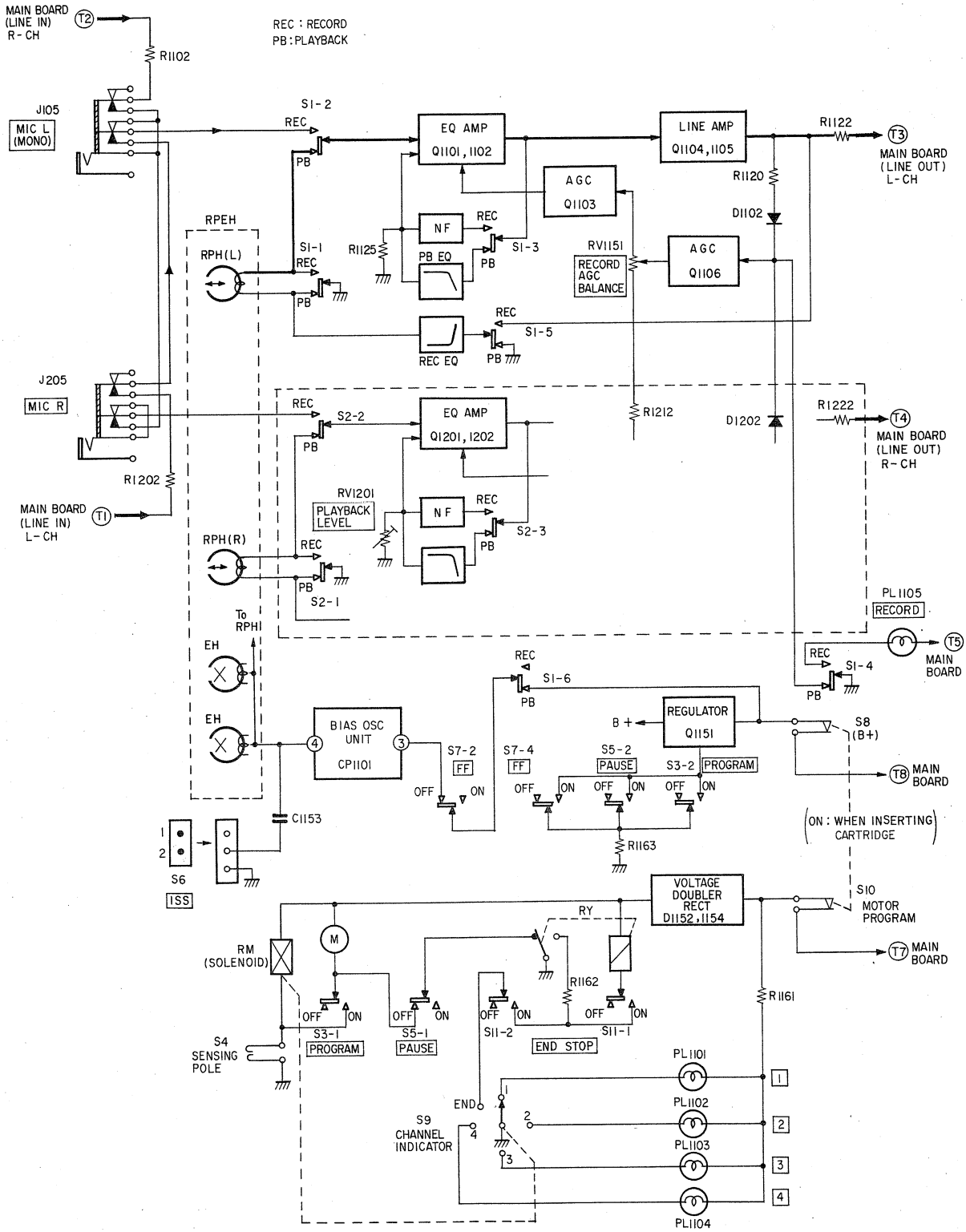
A voltage doubler circuit formed by D1152, D1154 and C1157 produces 14 Vdc from 7 Vac.

During the period ①, point Ⓐ is negative and point Ⓑ is positive, so C1157 is charged through D1152 (→①) and the next half cycle (period ②) of 7 Vac is also rectified by D1154 then, it produces 14 Vdc.

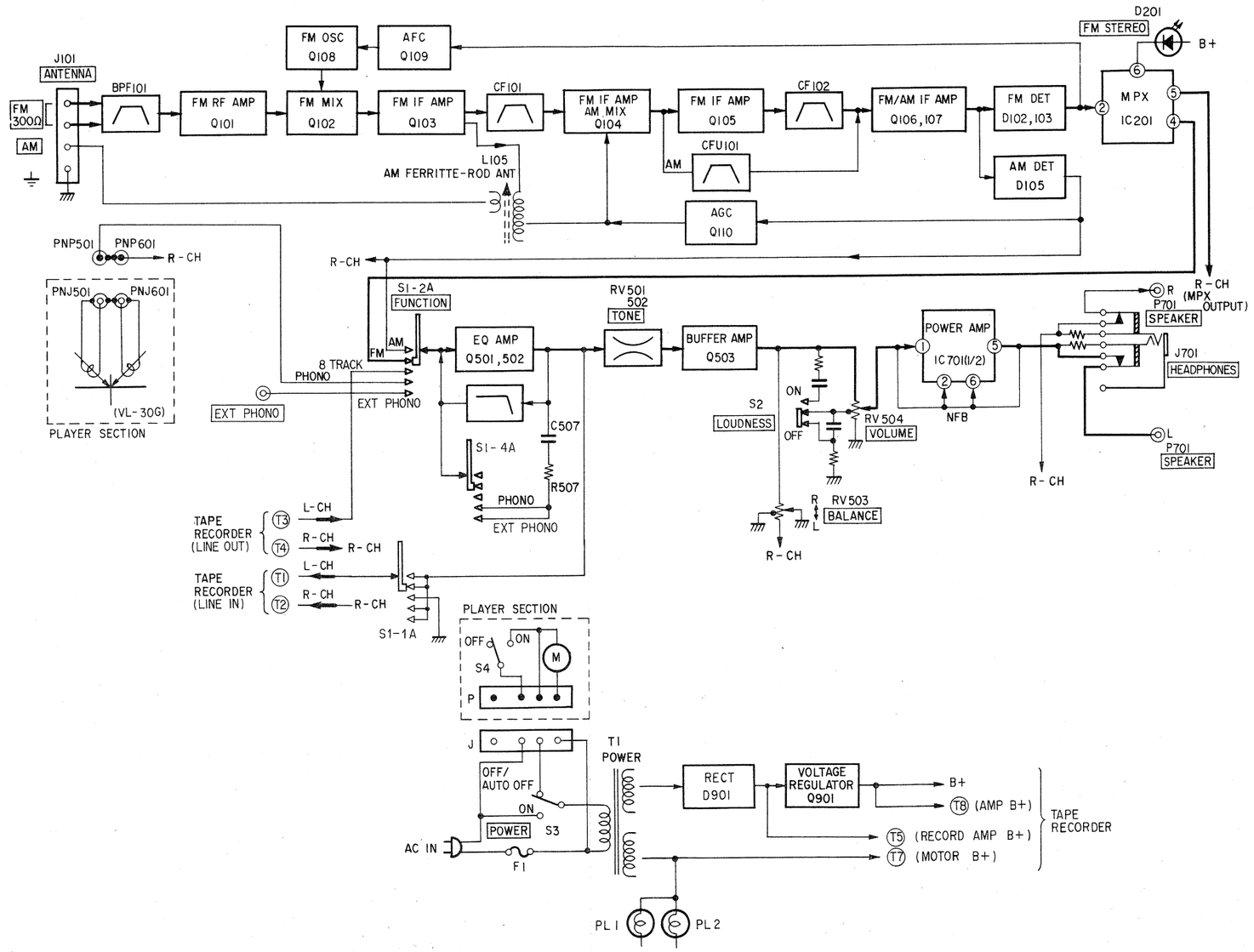




1-2. BLOCK DIAGRAM
— Receiver Section —



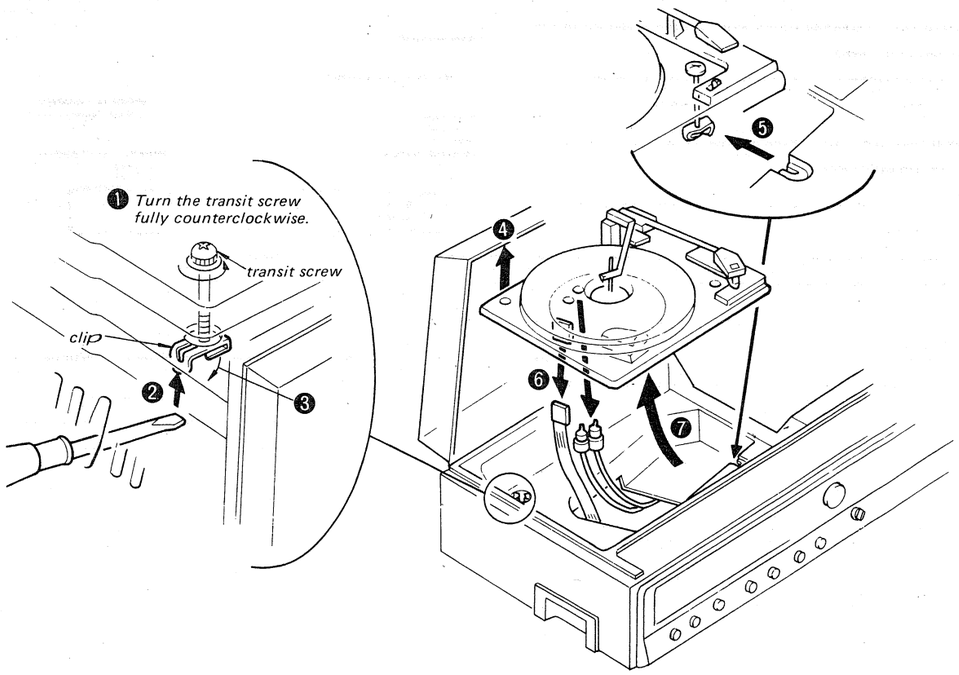
— Cartridge Recorder Section —



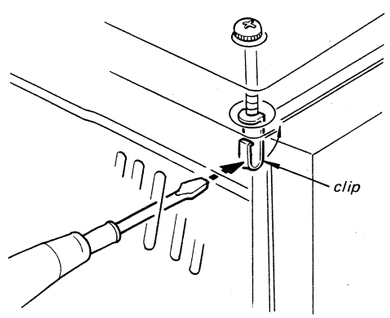
SECTION 2
DISASSEMBLY

2-1. REMOVAL

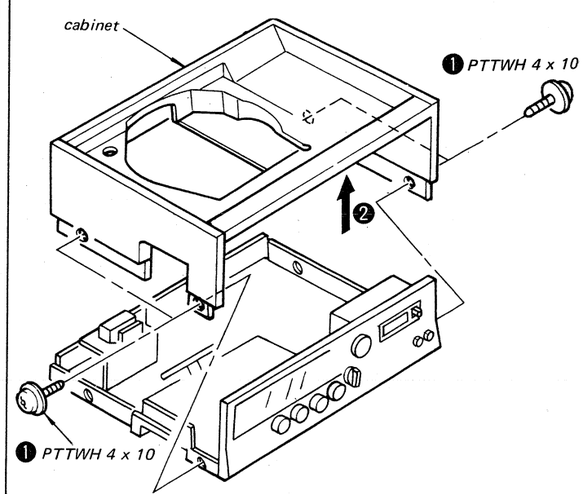
Record Changer Removal



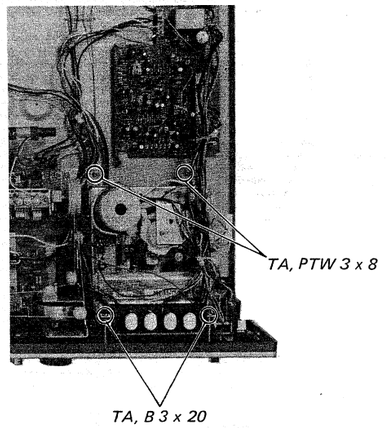
Refastening the transit screw.



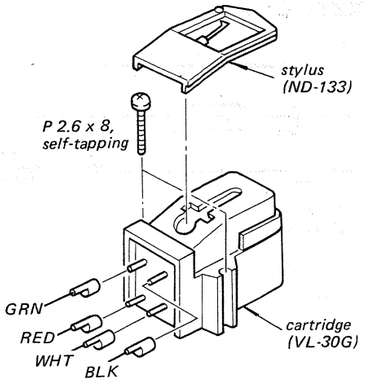
Cabinet Removal



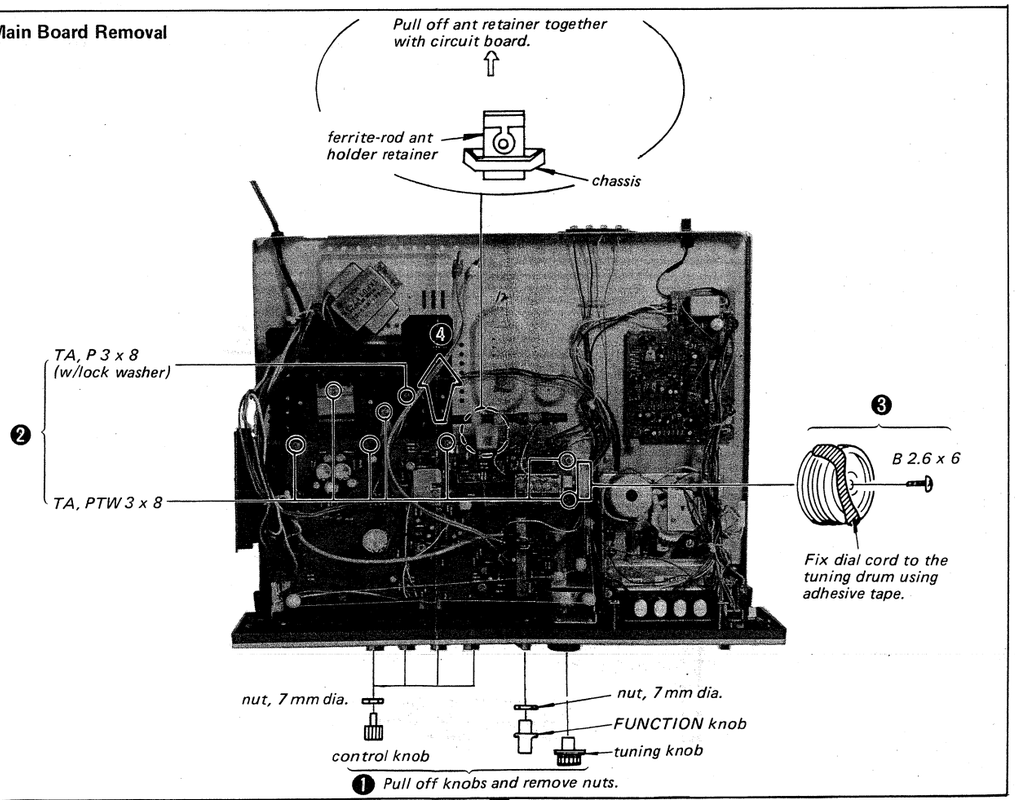
Cartridge Recorder Removal



Cartridge Removal



Main Board Removal

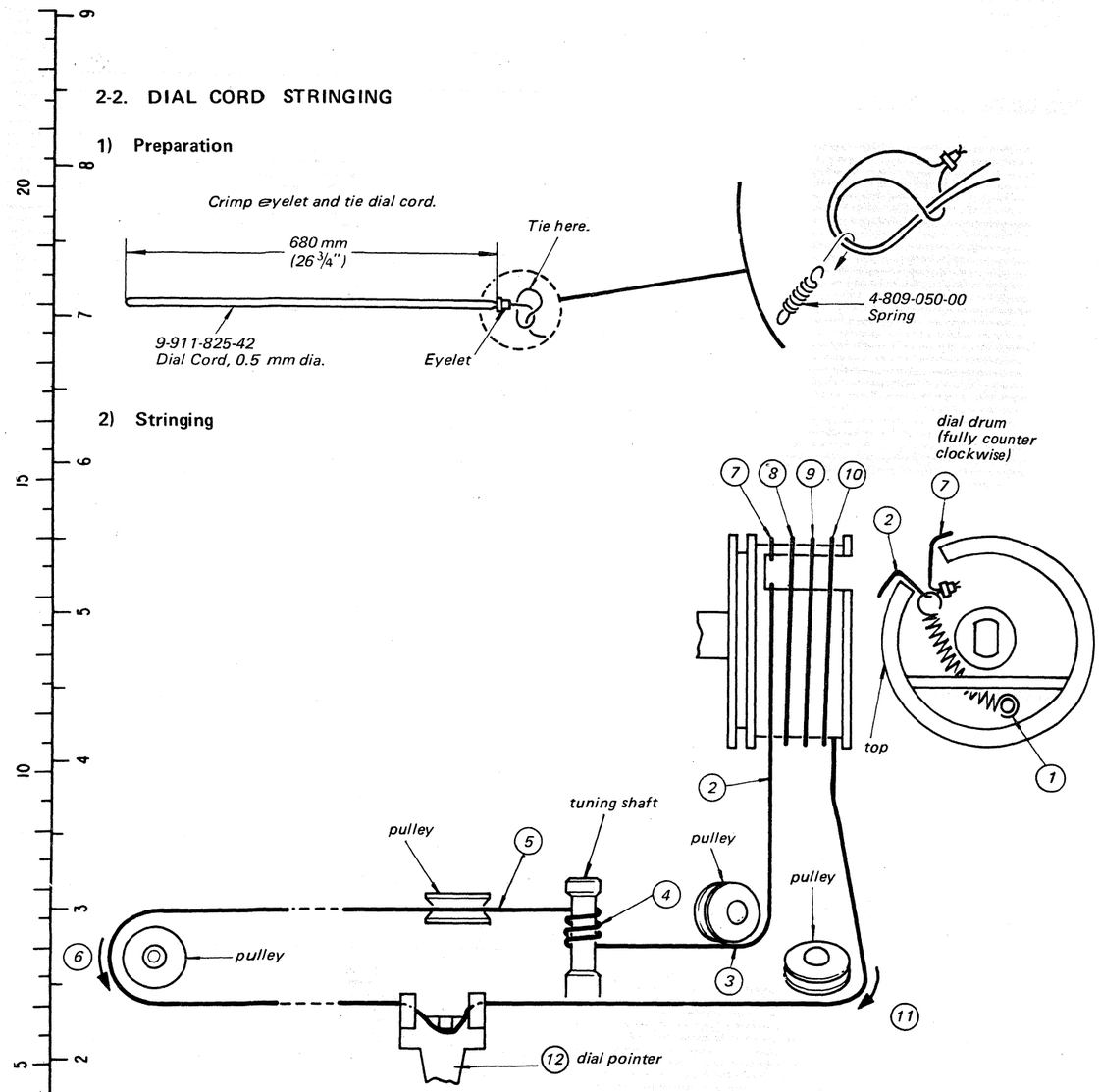

Pull off ant retainer together with circuit board.
ferrite-rod ant holder retainer
chassis
❷
TA, P 3 x 8 (w/lock washer)
TA, PTW 3 x 8
❸
B 2.6 x 6
Fix dial cord to the tuning drum using adhesive tape.
nut, 7 mm dia.
nut, 7 mm dia.
FUNCTION knob
tuning knob
control knob
❶ Pull off knobs and remove nuts.

Dial Cord Stringing

2-2. DIAL CORD STRINGING

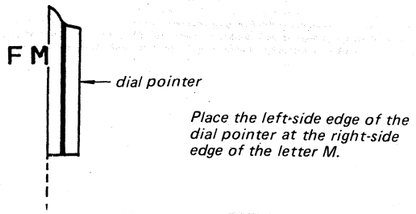
1) Preparation

2) Stringing



3) Dial Pointer Setting

- Turn the tuning shaft fully counterclockwise.



Place the left-side edge of the dial pointer at the right-side edge of the letter M.

SECTION 3
ADJUSTMENTS

3-1. CARTRIDGE RECORDER SECTION

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playback/erase head, capstan, rubber belts, idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply a suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Note: The adjustments should be performed in the order given in this service manual.

- Use the following 8-track cartridge test and blank tapes for the adjustment.

  WS-9C (3 kHz, 0 dB, tape speed)
  R-9-A1 (5 kHz, −10 dB, head azimuth)
  R-9-T1 (1 kHz, 0 dB, head height, 7th track is blank)
  R-9-L1 (400 Hz, 0 dB, playback level)
  GS-7 (blank tape)

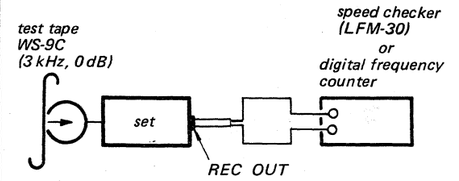
- Switches and controls should be set as follows unless otherwise specified.

  TONE control: } mechanical mid
  BALANCE control: }
  VOLUME control: }
  FUNCTION button: 8 TRACK
  PROGRAM button: [3]

Tape Speed Measurement

Procedure:

1. Mode: playback



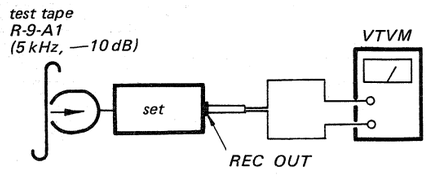
Specifications:

speed checker	digital frequency counter
+3 % −1 %	2970 ~ 3090 Hz

Record/playback Head Azimuth Adjustment

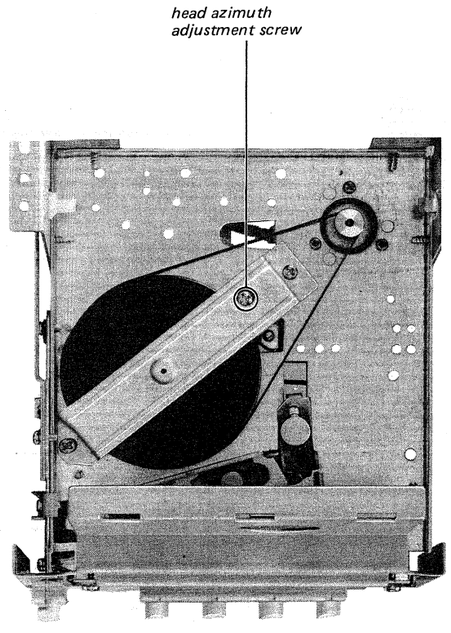
Procedure:

1. Mode: playback



2. Turn the adjustment screw for the highest VTVM reading.

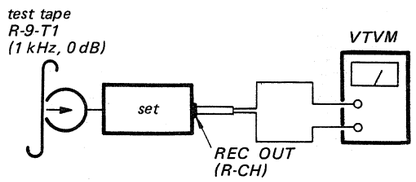
Adjustment Location:



Record/playback Head Height Adjustment

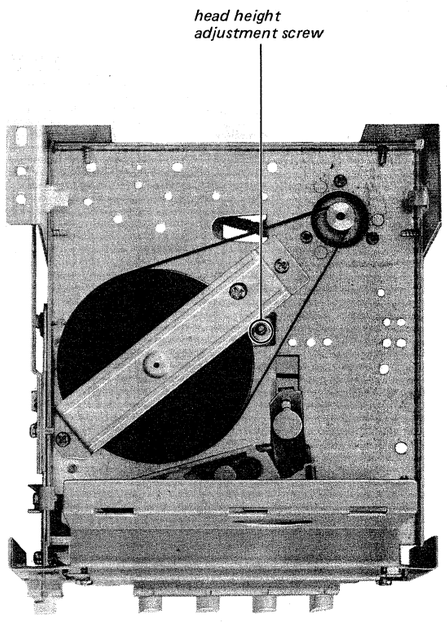
Procedure:

1. Mode: playback



2. Turn the adjustment screw for a minimum VTVM reading at the 3rd track and R-channel.

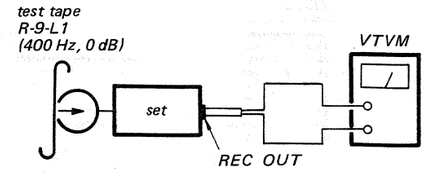
Adjustment Location:



Playback Level Adjustment

Procedure:

1. Mode: playback

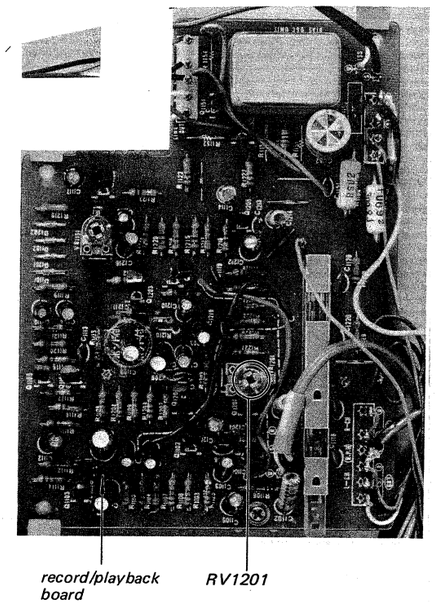


2. Adjust RV1201 so that the output level of R-channel becomes the same level as L-channel.

Specification:

Level difference between channels:
less than 0.2 dB

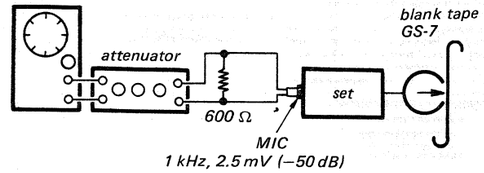
Adjustment Location:



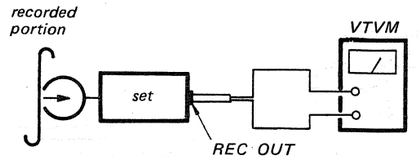
AGC Balance Adjustment

Procedure:

1. Mode: record



2. Mode: playback

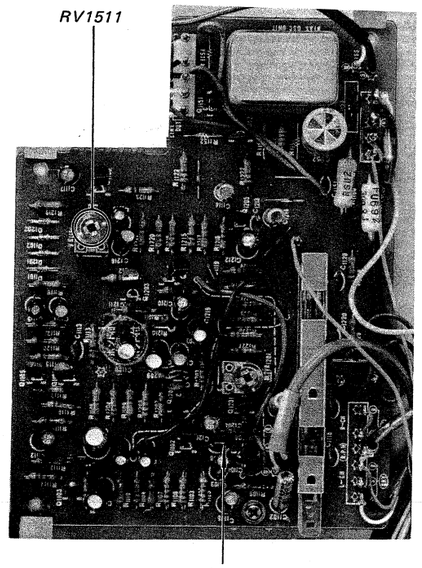


Adjust RV1151 so that the playback levels of both R- and L-channels become the same level.

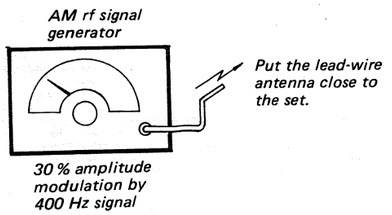
Specification:

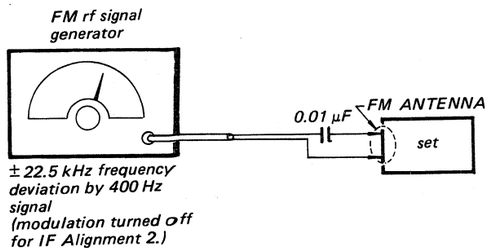
Level difference between channels:
less than 0.5 dB

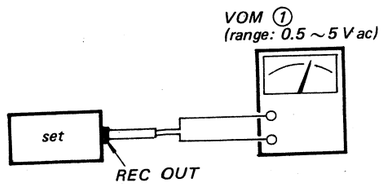
Adjustment Location:



SECTION 3
ADJUSTMENTS

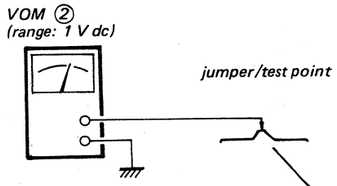



FM rf signal generator
0.01 µF
FM ANTENNA
set
± 22.5 kHz frequency deviation by 400 Hz signal
(modulation turned off for IF Alignment 2.)



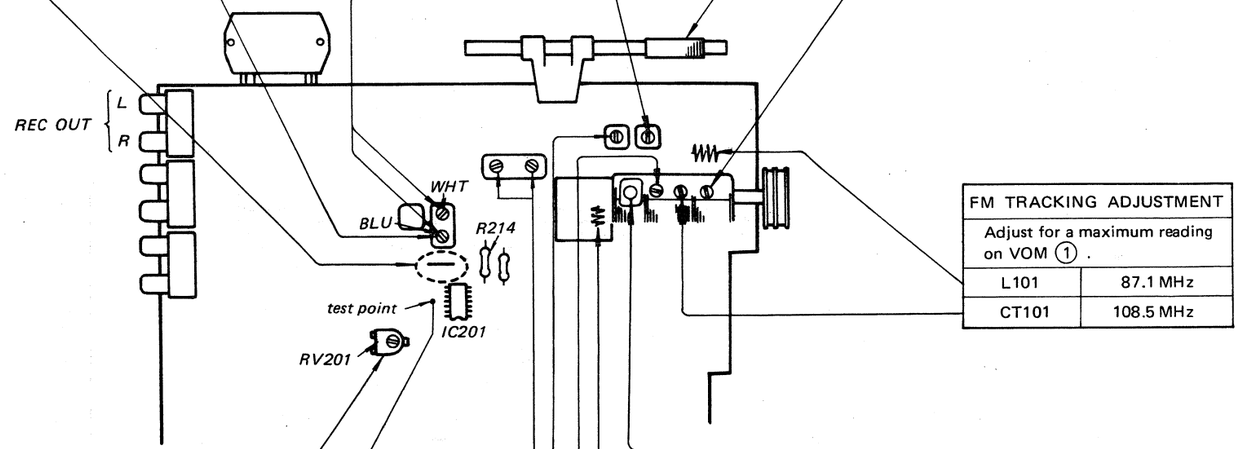
- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM IF ALIGNMENT 2 (10.7 MHz with no modulation)
Adjust for 0 V reading on VOM ②.
IFT103 (BLU core)



FM IF ALIGNMENT 1 (10.7 MHz with modulation)	
Adjust for a maximum reading on VOM ①.	
IFT103	IFT101

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
620 kHz	1,400 kHz
L105	CT104



FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
L101	87.1 MHz
CT101	108.5 MHz

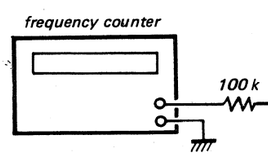
FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
CT103	108.5 MHz
L104	87.1 MHz

CFU101 (455 kHz)
Adjust for a maximum reading on VOM ①.
AM IF ALIGNMENT

L103	CT102
520 kHz	1,680 kHz
Adjust for a maximum reading on VOM ①.	
AM FREQUENCY COVERAGE ADJUSTMENT	

MPX Adjustment

1. FUNCTION switch: FM
2. Short the both leads of R214.
3. Adjust RV201 for 19 kHz ± 100 Hz frequency counter reading.

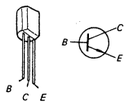


SECTION 4
DIAGRAMS

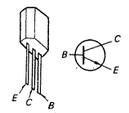
4-1. MOUNTING DIAGRAM — Main Board —
— Conductor Side —

Replacement Semiconductors.
For replacement, use semiconductors except in ( ).

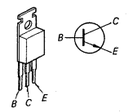
Q101, 102, Q104–110: 2SC710



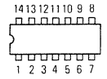
Q103: 2SC403C
Q501, 503, Q601, 603: 2SC632A (2SC631A)
Q502, 602: 2SC634A



Q901: 2SC1061

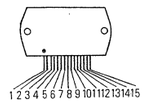


IC201: HA1156

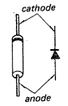


(Top view)

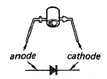
IC701: STK439



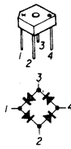
D101–103: 1S1555
D105–107: 1T22A (1T22)



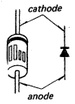
D201: SEL103R



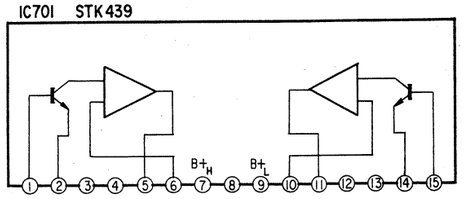
D901: S2VB20



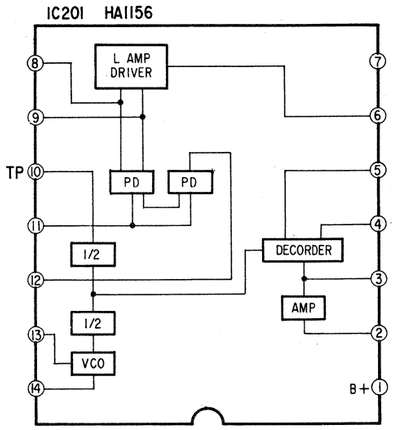
D903: EQB01-22 (EQA01-22R)



IC701 STK439

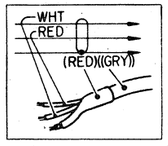


IC201 HA1156

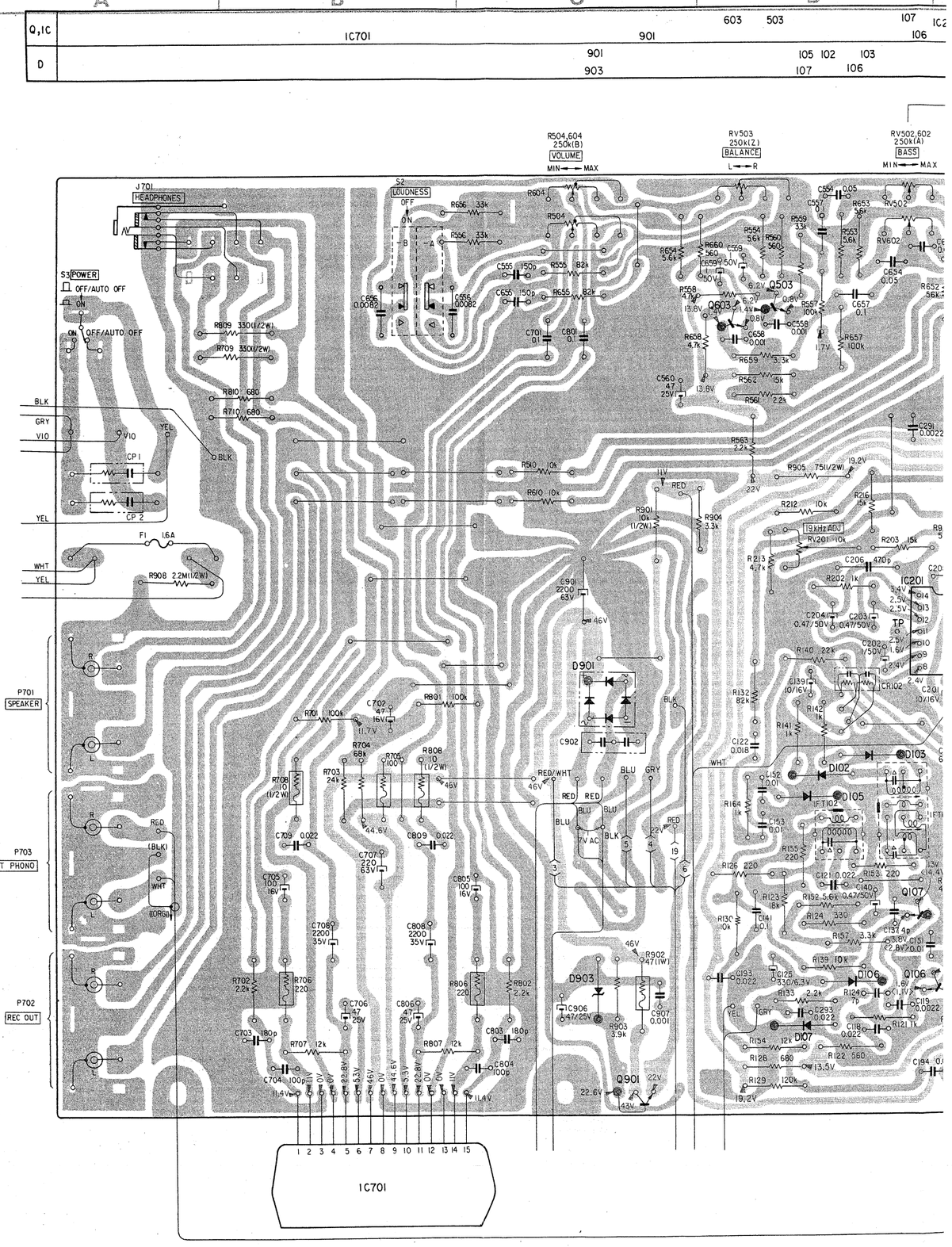


Note:

- Color code of sleeving over the end of the jacket.

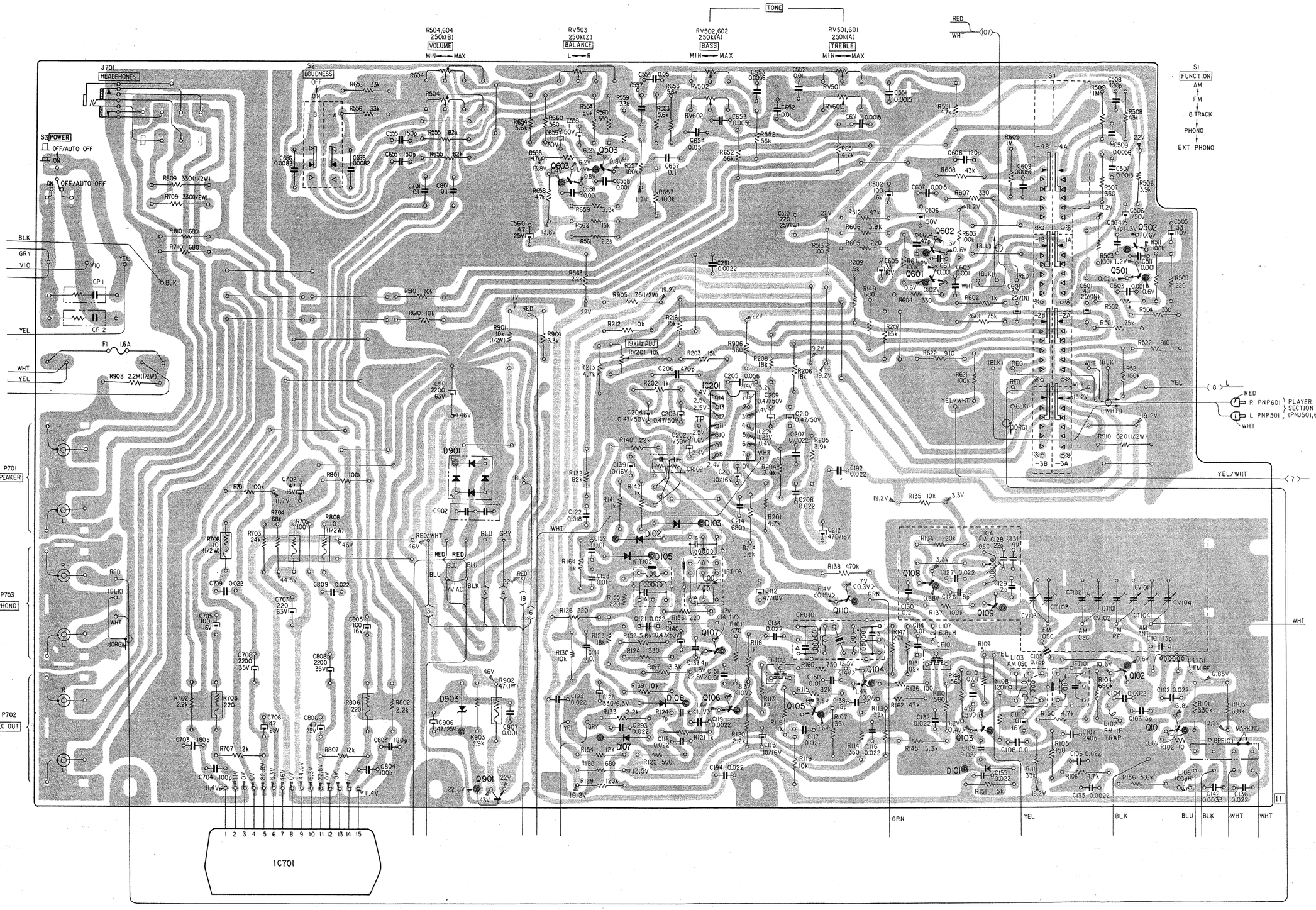


- ⬚←: indicates side identified with part number.
- ▒▒▒: B+ pattern.
- (F) : fisible resistor.
- ✱ : These pins are not connected to any contact.
- Readings are taken under detuned conditions with a VOM (20 kΩ/V).
  < >: AM [ ] : FORWARD
- Voltages in [ ] are dc with respect to B– bus.



HME-418

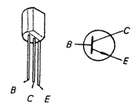
Q,IC	A	B	C	D	E	F	G	Q,IC
	IC701	901	603 503	107 IC201 106	105 110 104	602 108 601 103 109	502 102 501 101	
D		901 903	105 102 103 107 106		101			D



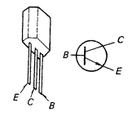
4-2. MOUNTING DIAGRAM — Receiver Section —

Replacement Semiconductors.
For replacement, use semiconductors except in ( ).

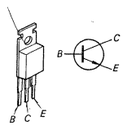
Q101, 102
Q104–110: 2SC710



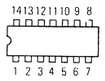
Q103: 2SC403C
Q501, 503
Q601, 603: 2SC632A (2SC631A)
Q502, 602: 2SC634A



Q901: 2SC1061

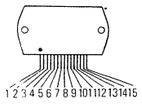


IC201: HA1156

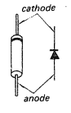


(Top view)

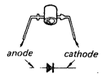
IC701: STK439



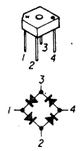
D101–103: 1S1555
D105–107: 1T22A (1T22)



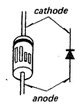
D201: SEL103R



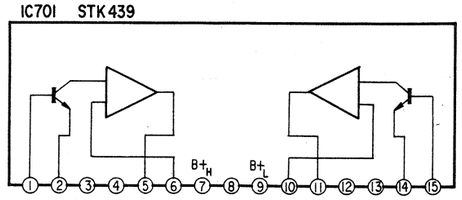
D901: S2VB20



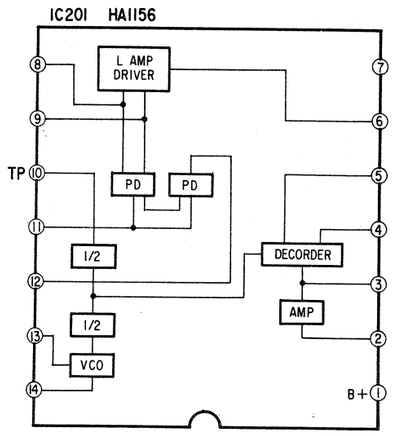
D903: EQB01-22 (EQA01-22R)



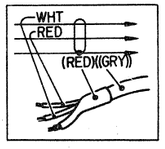
IC701 STK439



IC201 HA1156

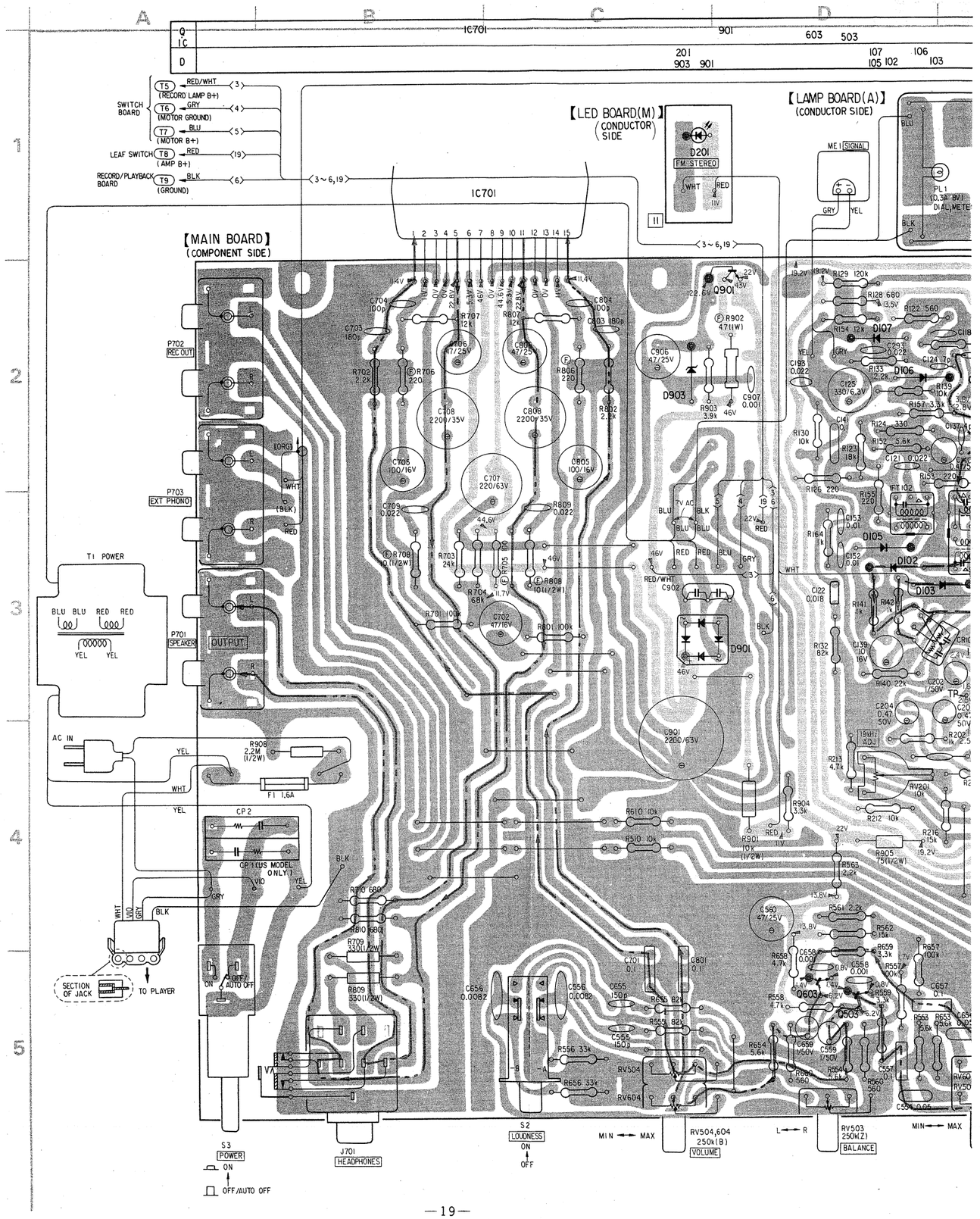


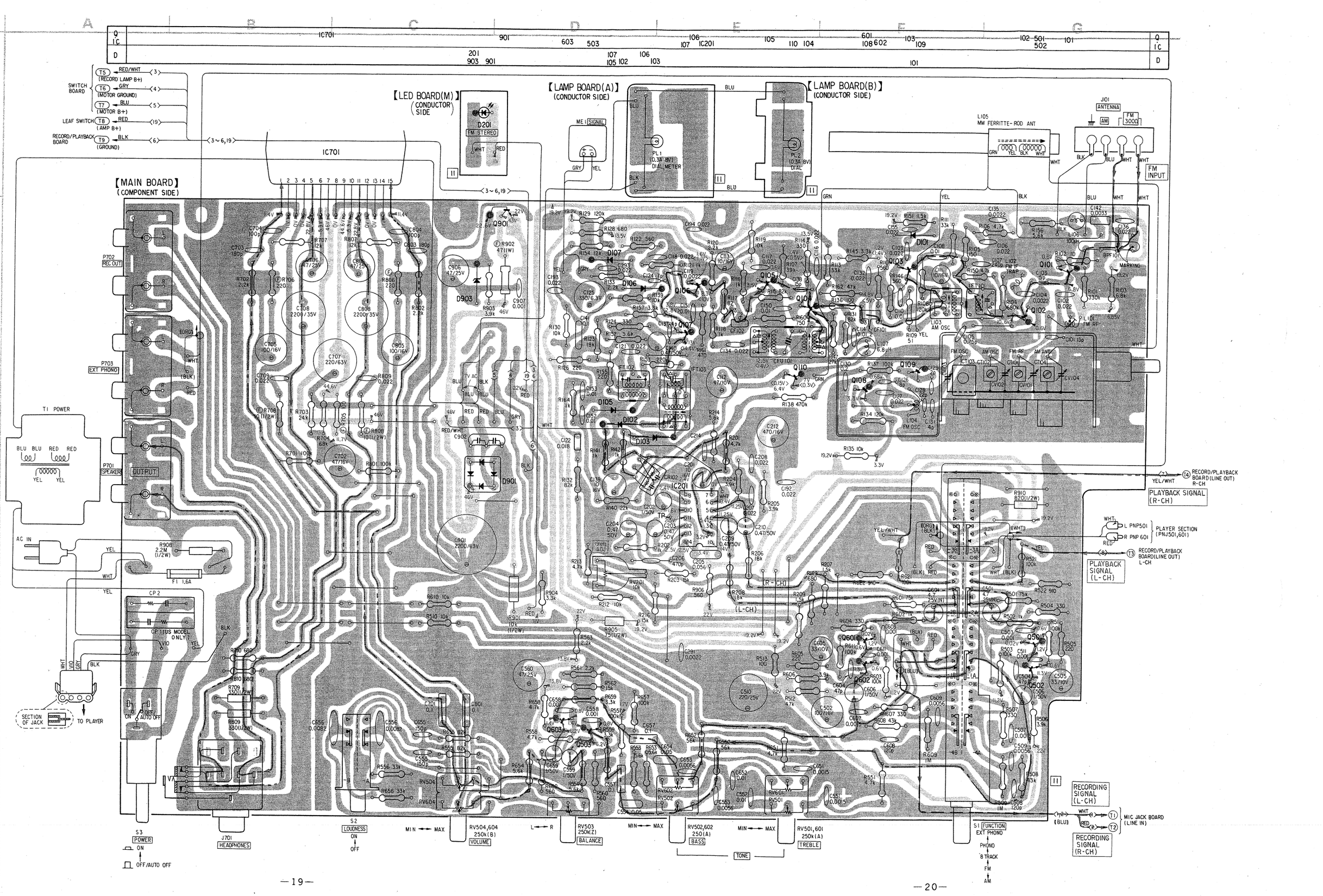
- Color code of sleeving over the end of the jacket.



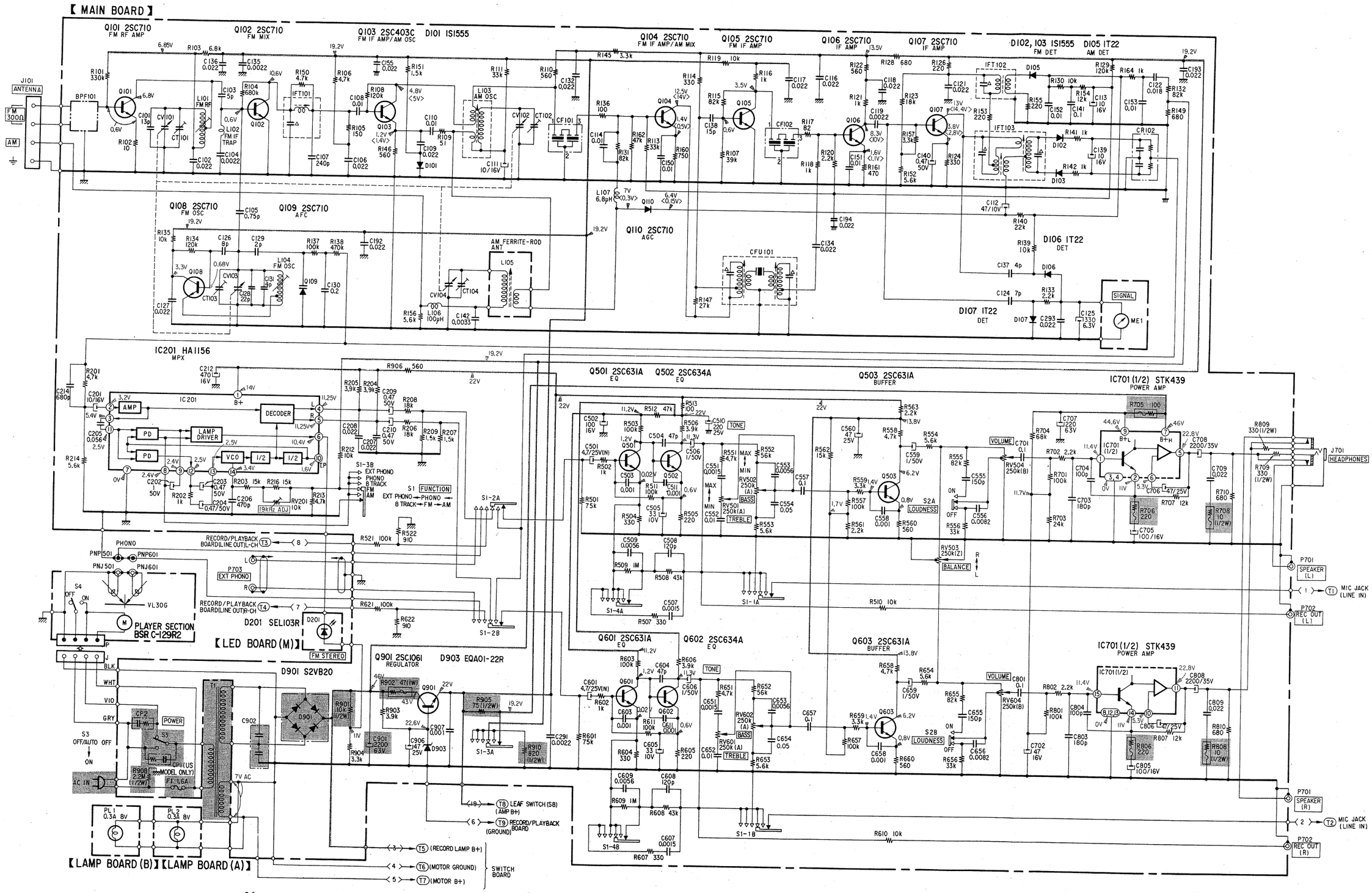
- : indicates side identified with part number.
- : B + pattern.
- : signal path { : L-CH, : R-CH }
- (F) : fisible resistor.
- ※ : These pins are not connected to any contact.

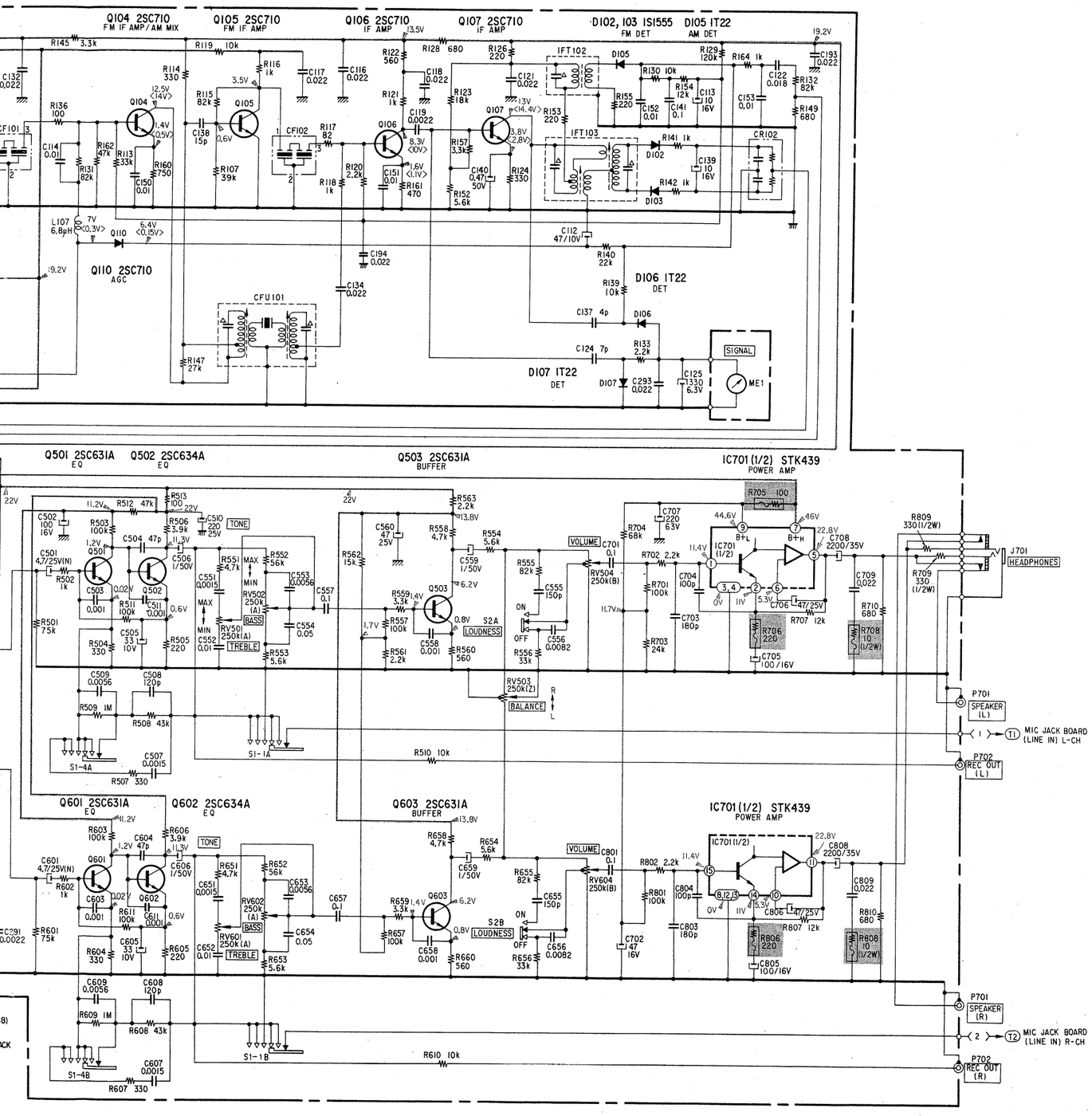
Note: The components identified by shading are critical for safety. Replace only with part number specified.




【MAIN BOARD】
(COMPONENT SIDE)
【LED BOARD(M)】
(CONDUCTOR SIDE)
【LAMP BOARD(A)】
(CONDUCTOR SIDE)
【LAMP BOARD(B)】
(CONDUCTOR SIDE)
IC701
D201
FM STEREO
PL1 (0.3A 8V) DIAL METER
PL2 (0.3A 8V) DIAL
ME SIGNAL
L105 MW FERRITTE-ROD ANT
J101 ANTENNA
AM
FM 300Ω
FM INPUT
SWITCH BOARD
T5 RED/WHT (RECORD LAMP B+)
T6 GRY (MOTOR GROUND)
T7 BLU (MOTOR B+)
T8 RED (AMP B+)
LEAF SWITCH
RECORD/PLAYBACK BOARD
T9 BLK (GROUND)
3~6,19
P702 REC OUT
P703 EXT PHONO
P701 SPEAKER
OUTPUT
TI POWER
AC IN
CP2
CP1(US MODEL ONLY)
F1 1.6A
SECTION OF JACK
TO PLAYER
S3 POWER
ON
OFF/AUTO OFF
J701 HEADPHONES
S2 LOUDNESS
RV504,604 250k(B) VOLUME
RV503 250k(Z) BALANCE
RV502,602 250(A) BASS
RV501,601 250k(A) TREBLE
TONE
S1 FUNCTION
EXT PHONO
PHONO
8 TRACK
FM
AM
T4 RECORD/PLAYBACK BOARD (LINE OUT) R-CH
PLAYBACK SIGNAL (R-CH)
PLAYER SECTION (PNJ501,601)
L PNP501
R PNP 601
T3 RECORD/PLAYBACK BOARD(LINE OUT) L-CH
PLAYBACK SIGNAL (L-CH)
RECORDING SIGNAL (L-CH)
RECORDING SIGNAL (R-CH)
T1 T2 MIC JACK BOARD (LINE IN)

4-3. SCHEMATIC DIAGRAM — Receiver Section —



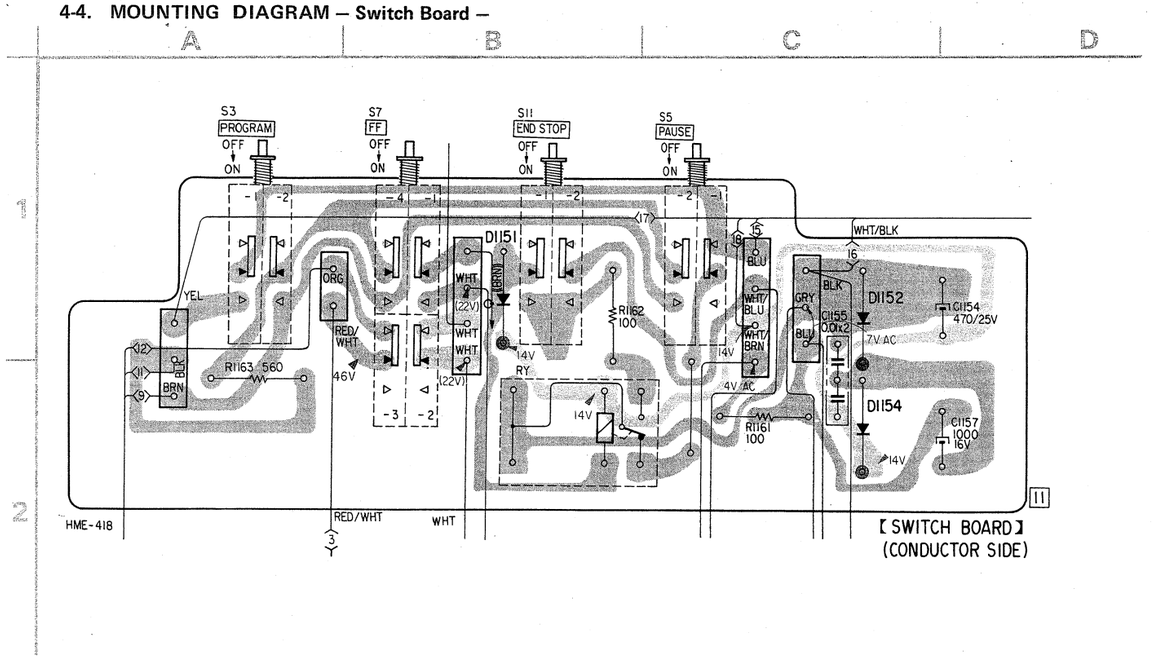


Note:

- All capacitors are in μF unless otherwise noted. pF = μμF 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000 kΩ
- ⊷: fusible resistor.
- (N) : low-noise capacitor.
- △ : internal component.
- ⎓ : B + bus.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ⏚ : chassis ground.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under detuned conditions with a VOM (20 kΩ/V).
  < >: AM
  no mark: FM
- Voltage variations may be noted due to normal production tolerances.
- Switch

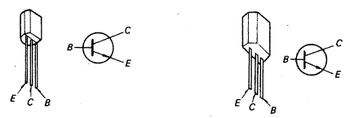
Ref. No.	Switch	Position
S1	FUNCTION	FM
S2	LOUDNESS	OFF
S3	POWER	OFF/ AUTO OFF
S4	PLAYER POWER	OFF

4-4. MOUNTING DIAGRAM — Switch Board —

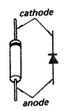


Replacement Semiconductors.
For replacement, use semiconductors except in ( ).

Q1101, 1102, Q1201, 1202: 2SC632A (2SC1361-57)
Q1103, 1203: 2SC634A (2SC1364)
Q1104, 1105
Q1106, 1204 : 2SC634A (2SC1364-7)
Q1205, 1151

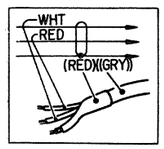


D: 10E2
D1101, 1102, D1201, 1202: 1S2076A (1S2076)



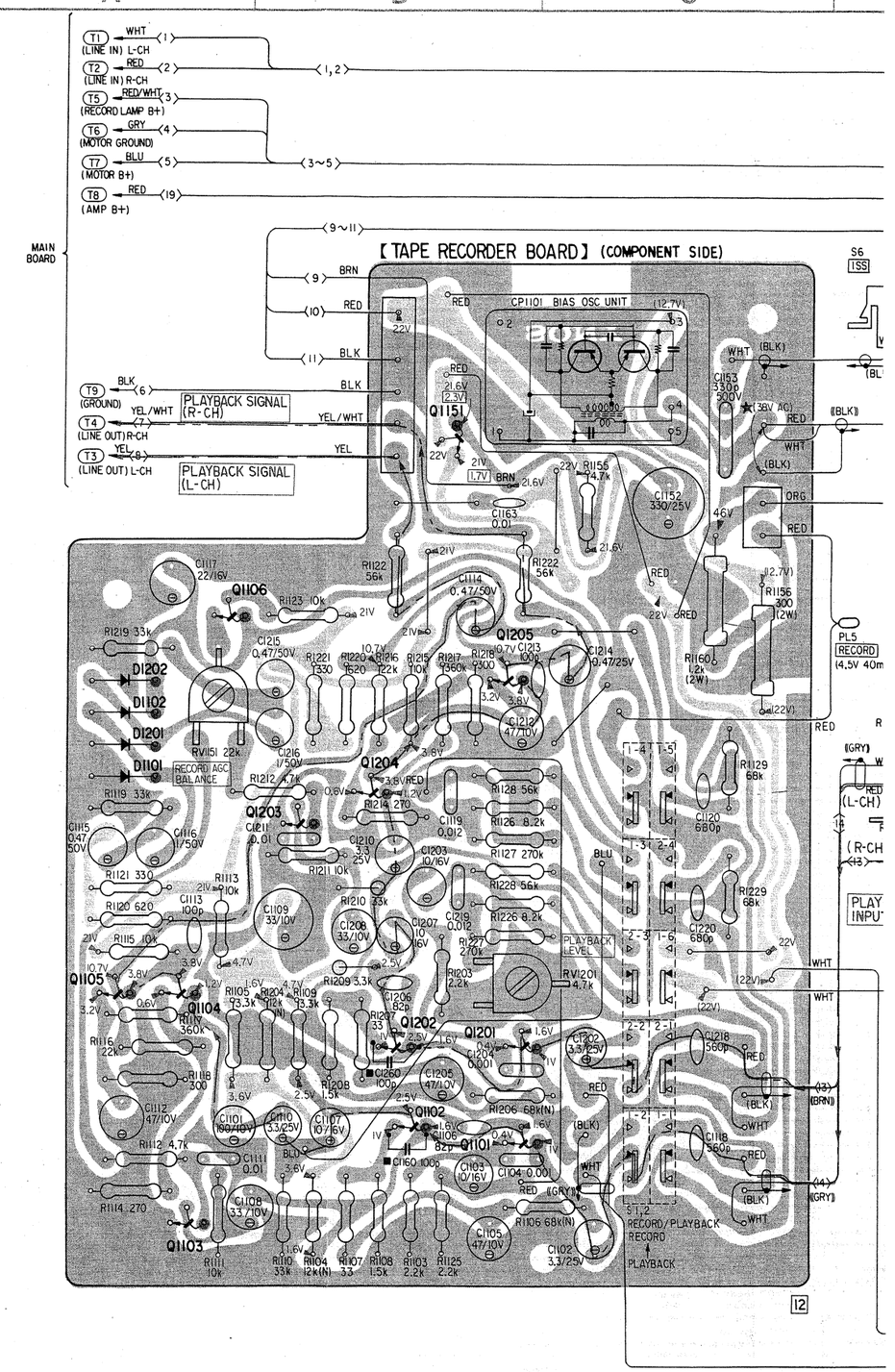
D1151, 1152, D1154: U05G (GP08B)

- Color code of sleeving over the end of the jacket.



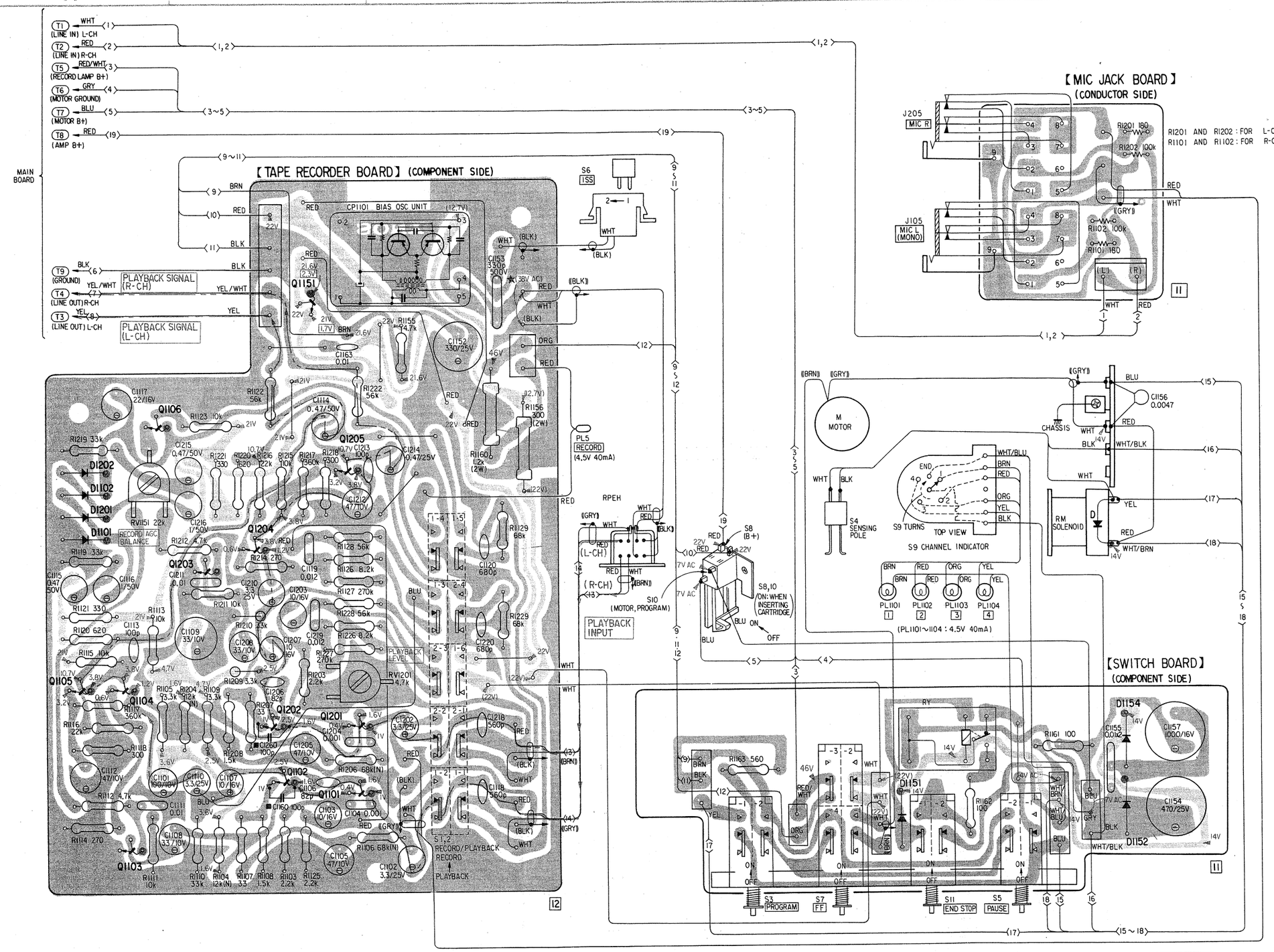
- ■ : part mounted on the conductor side.
- ▒ : B + pattern.
- ——→——: signal path { ——→——: L-CH ——→——: R-CH

4-5. MOUNTING DIAGRAM — Cartridge Recorder Section —



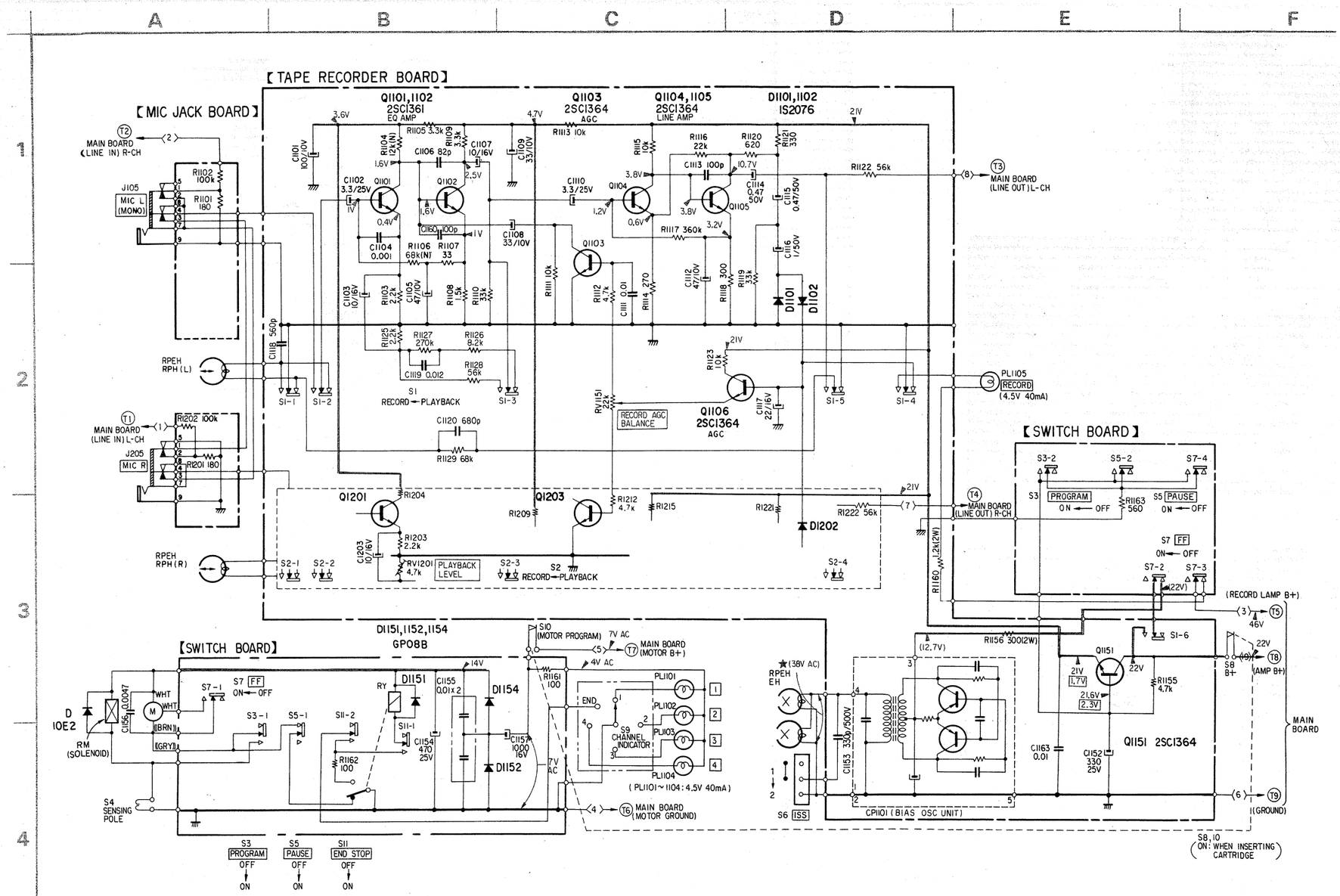
| | | |

4-5. MOUNTING DIAGRAM — Cartridge Recorder Section —



| | | |

4-6. SCHE MATIC DIAGRAM — Cartridge Recorder Section —

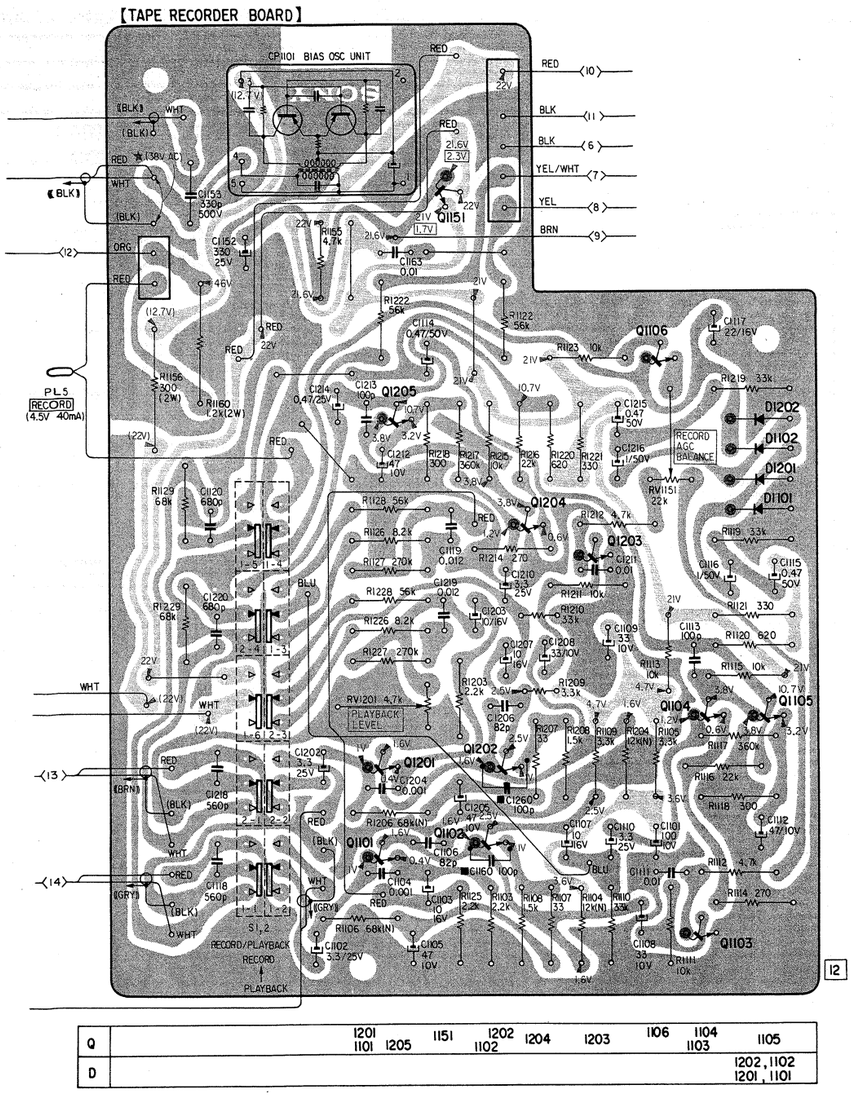


Note:

- Components for right channel have the same values as for left channel. Reference numbers are coded from 1200.
- All capacitors are in μF unless otherwise noted. pF = μμF 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000 kΩ.
- (N) : low-noise capacitor and resistor.
- ——— : B + bus.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ⏚ : chassis ground.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (20 kΩ/V).
  ( ) : RECORD
  ▭ : When S3 (PROGRAM), S5 (PAUSE) or S7 (FF) is ON.
- AC voltage readings indicated by * in the bias oscillator circuit are taken with a VTVM.
- Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S1	RECORD/PLAYBACK	PLAYBACK
S2	RECORD/PLAYBACK	PLAYBACK
S3	PROGRAM	OFF
S4	SENSING POLE	——
S5	PAUSE	OFF
S7	FF	OFF
S8	B +	OFF
S9	CHANNEL INDICATOR	1
S10	MOTOR, PROGRAM	OFF
S11	END STOP	OFF

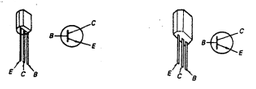
4-7. MOUNTING DIAGRAM – Record/playback Board –



Q	1201 1101 1205	1151	1202 1102	1204	1203	1106	1104 1103	1105
D								1202, 1102 1201, 1101

Replacement Semiconductors.
For replacement, use semiconductors except in ( ).

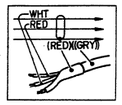
Q1101, 1102, Q1201, 1202: 2SC632A (2SC1361-57)
Q1103, 1203: 2SC634A (2SC1364)
Q1104, 1105 Q1106, 1204 Q1205, 1151: 2SC634A (2SC1364-7)



D: 10E2
D1101, 1102, D1201, 1202: 1S2076A (1S2076)

D1151, 1152, D1154: U05G (GP08B)

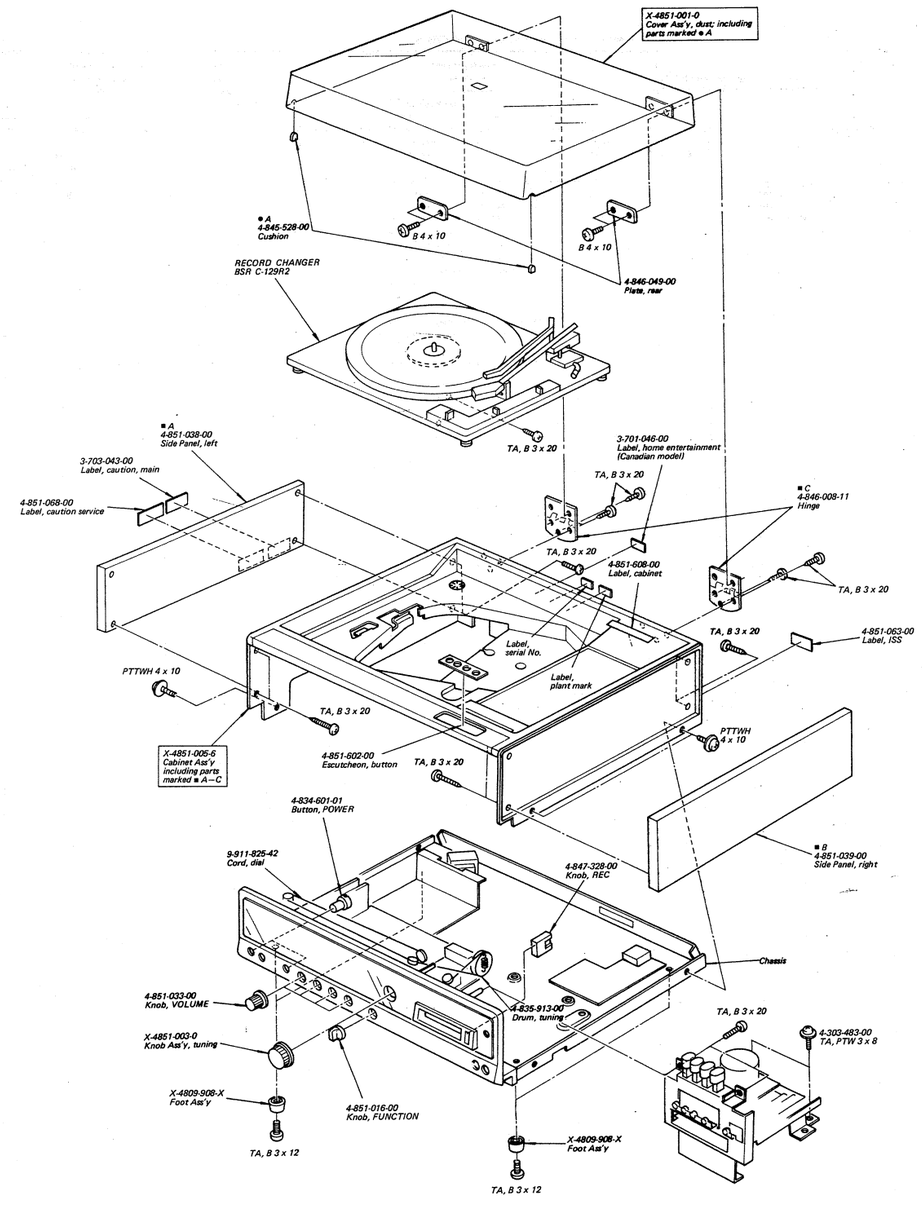
- Color code of sleeving over the end of the jacket.



- ■ : part mounted on the conductor side.
- ▒ : B + pattern.

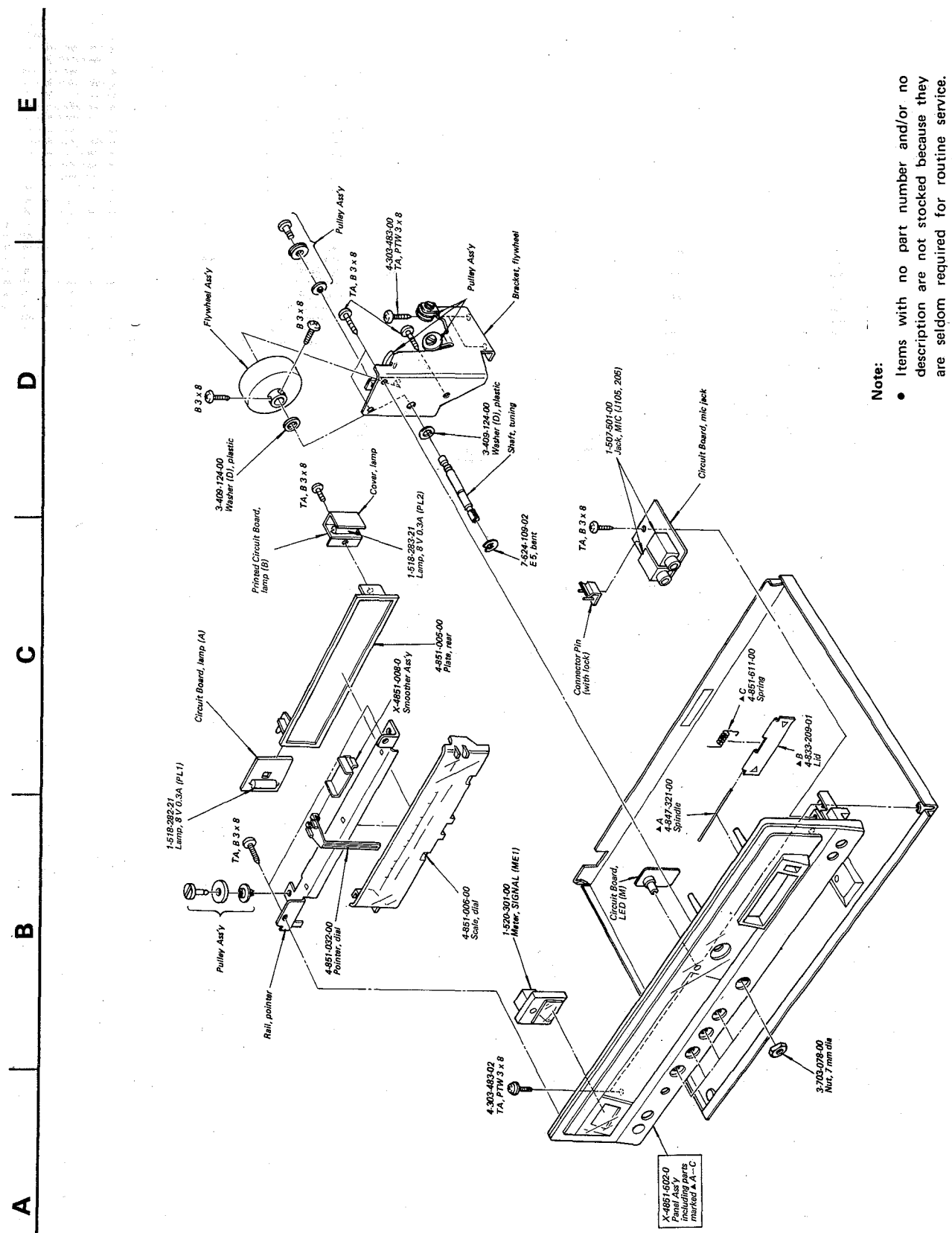
SECTION 5
EXPLODED VIEWS

(1)



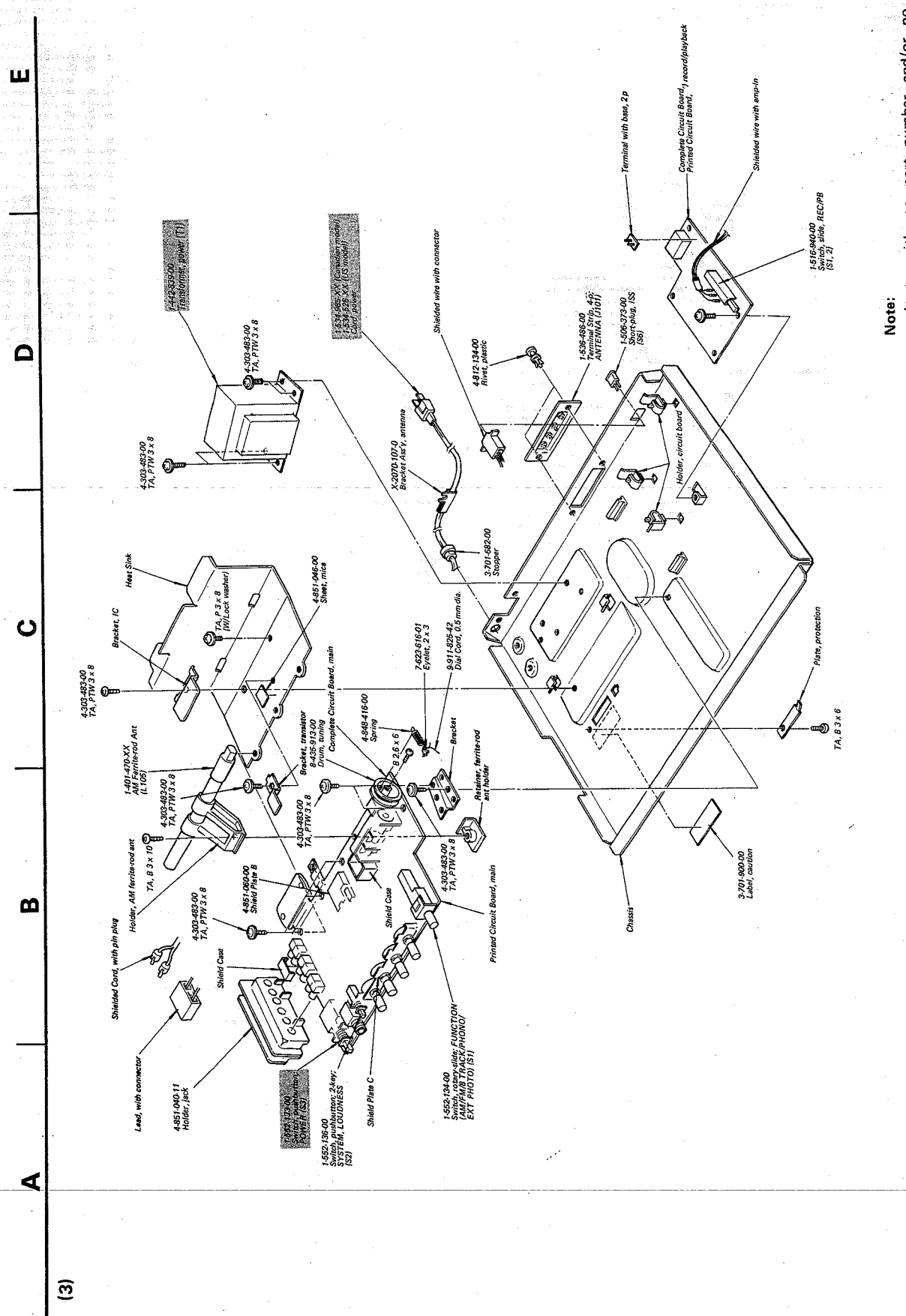
Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

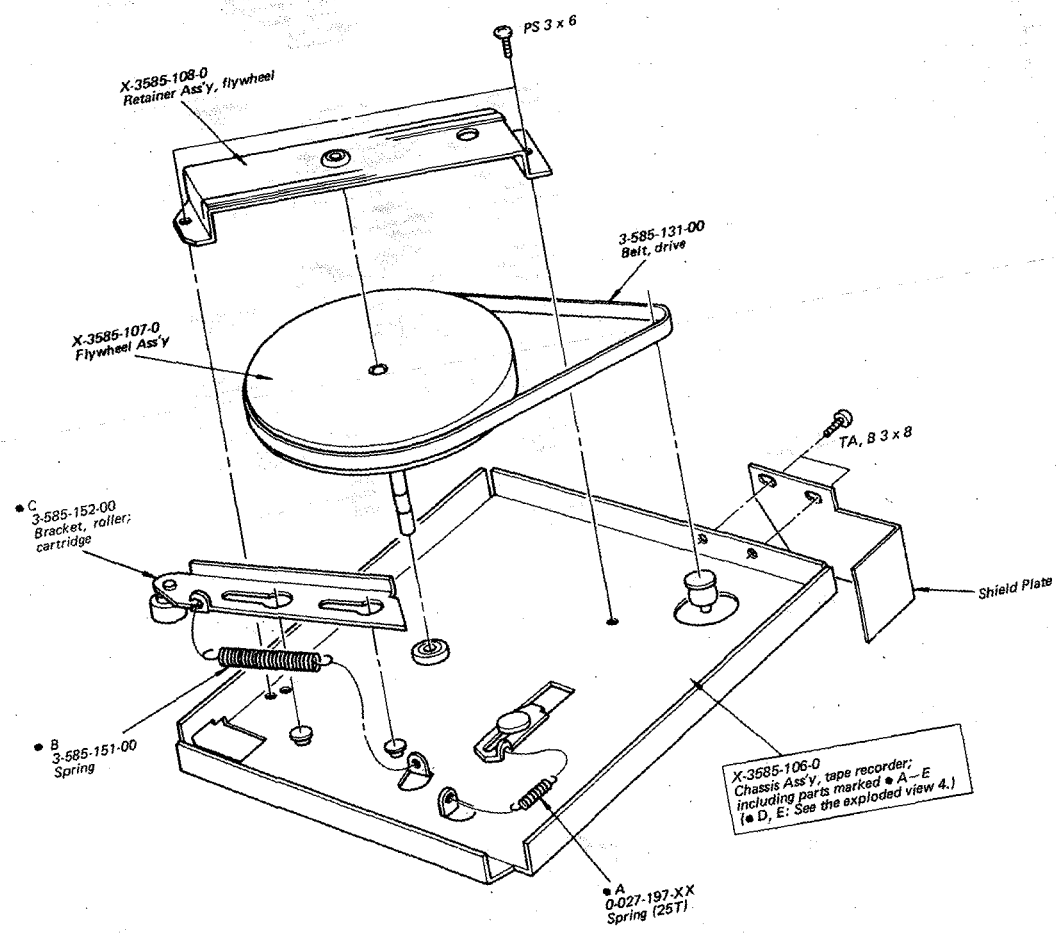


Note: The components identified by shading are critical for safety. Replace only with part number specified.

Note:

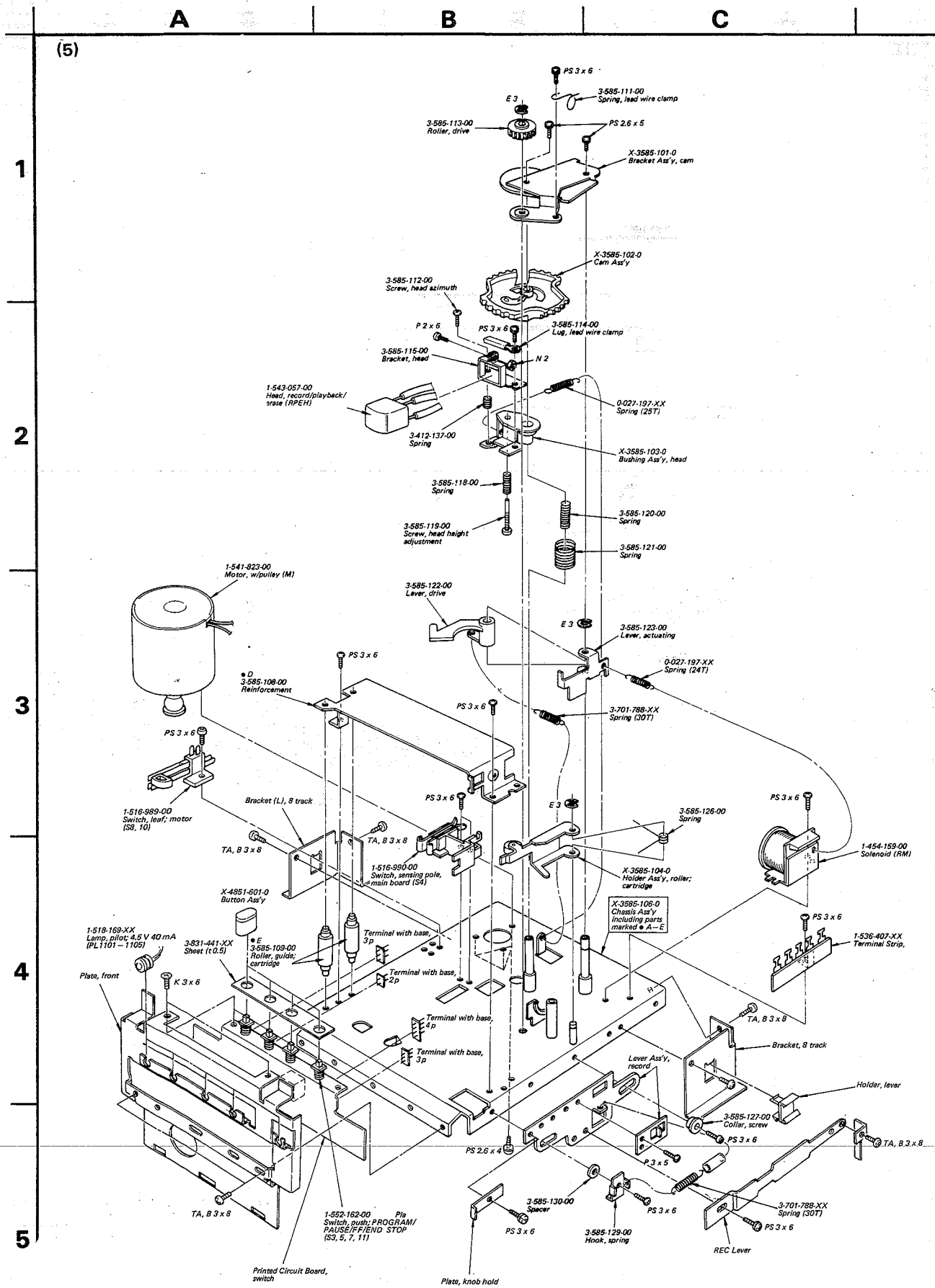
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (—) = slotted head

(4)



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.


A
B
C
1
2
3
4
5
(5)
PS 3 x 6
3-585-111-00
Spring, lead wire clamp
E 3
3-585-113-00
Roller, drive
PS 2.6 x 5
X-3585-101-0
Bracket Ass'y, cam
X-3585-102-0
Cam Ass'y
3-585-112-00
Screw, head azimuth
P 2 x 6
PS 3 x 6
3-585-114-00
Lug, lead wire clamp
3-585-115-00
Bracket, head
N 2
1-543-057-00
Head, record/playback/
erase (RPEH)
0-027-197-XX
Spring (25T)
3-412-137-00
Spring
X-3585-103-0
Bushing Ass'y, head
3-585-118-00
Spring
3-585-120-00
Spring
3-585-119-00
Screw, head height
adjustment
3-585-121-00
Spring
1-541-823-00
Motor, w/pulley (M)
3-585-122-00
Lever, drive
E 3
3-585-123-00
Lever, actuating
PS 3 x 6
0-027-197-XX
Spring (24T)
• D
3-585-108-00
Reinforcement
PS 3 x 6
3-701-788-XX
Spring (30T)
PS 3 x 6
1-516-989-00
Switch, leaf; motor
(S8, 10)
Bracket (L), 8 track
PS 3 x 6
E 3
3-585-126-00
Spring
PS 3 x 6
TA, B 3 x 8
TA, B 3 x 8
1-516-990-00
Switch, sensing pole,
main board (S4)
X-3585-104-0
Holder Ass'y, roller;
cartridge
1-454-159-00
Solenoid (RM)
X-4851-601-0
Button Ass'y
X-3585-106-0
Chassis Ass'y
including parts
marked • A—E
PS 3 x 6
1-518-169-XX
Lamp, pilot; 4.5 V 40 mA
(PL1101—1105)
3-831-441-XX
Sheet (t 0.5)
• E
3-585-109-00
Roller, guide;
cartridge
Terminal with base,
3p
1-536-407-XX
Terminal Strip,
Terminal with base,
2p
Plate, front
K 3 x 6
Terminal with base,
4p
TA, B 3 x 8
Terminal with base,
3p
Bracket, 8 track
Lever Ass'y,
record
Holder, lever
3-585-127-00
Collar, screw
PS 3 x 6
PS 2.6 x 4
P 3 x 5
TA, B 3 x 8
TA, B 3 x 8
1-552-162-00
Switch, push; PROGRAM/
PAUSE/FF/END STOP
(S3, 5, 7, 11)
3-585-130-00
Spacer
PS 3 x 6
PS 3 x 6
3-585-129-00
Hook, spring
3-701-788-XX
Spring (30T)
PS 3 x 6
REC Lever
Printed Circuit Board,
switch
Plate, knob hold

SECTION 6
ELECTRICAL PARTS LIST

Ref. No.	*Part No.*	*Description*
		SEMICONDUCTORS
		Transistor
Q101, 102		2SC710
Q103		2SC403C
Q104～110		2SC710
Q501		2SC632A
Q502		2SC634A
Q503		2SC632A
Q601		2SC632A
Q602		2SC634A
Q603		2SC632A
Q901		2SC1061
Q1101, 1201, Q1102, 1202		2SC632A
Q1103～1105, Q1203～1205		2SC634A
Q1106		2SC634A
Q1151		2SC634A
		ICs
IC201		HA1156
IC701		STK-439
		Diodes
D101～103		1S1555
D105, 106		1T22A
D107		1S1555
D201		SEL103R
D901		S2VB20
D903		EQB01-22
D1101, 1201, D1102, 1202		1S2076
D1151, 1152, D1154		U05G

Ref. No.	*Part No.*	*Description*
		COILS
L103	1-405-597-00	AM Osc
L105	1-401-470-XX	Ferrite-rod Antenna, AM
L106	1-407-169-XX	Microinductor, 100 mH
L107	1-407-188-XX	Microinductor, 6.8 mH
		TRANSFORMERS
T1	1-442-839-00	Power
CFU101	1-403-150-00	Triple Tune IFT
IFT101	1-404-004-00	IF Coil
IFT102	1-404-064-00	AM Detector
IFT103	1-403-822-00	Discriminator
		CAPACITORS

All capacitors are in μF and ceramic unless otherwise noted.
50 WV or less are not indicated except for electrolytics.
pF = μμF, elect = electolytic

C101	1-102-950-11	13 p		
C102	1-101-005-11	0.022		
C103	1-102-942-11	5 p		
C104	1-102-121-11	0.0022		
C105	1-101-586-11	0.75 p		
C106	1-101-005-11	0.022		
C107	1-102-979-11	240 p		
C108	1-101-004-11	0.01		
C109	1-101-005-11	0.022		
C110	1-108-239-12	0.01		mylar
C111	1-121-651-11	10	16 V	elect
C112	1-123-195-11	47	10 V	elect
C113	1-121-651-11	10	16 V	elect
C114	1-101-004-11	0.01		
C116～118	1-101-005-11	0.022		
C119	1-102-121-11	0.0022		
C121	1-101-005-11	0.022		
C122	1-108-358-12	0.018		mylar
C124	1-102-944-11	7 p		
C125	1-121-751-11	330	6.3 V	elect

Note: The components identified by shading are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description		
C126	1-102-684-11	8 p		
C127	1-101-005-11	0.022		
C128	1-102-805-11	22 p		
C129	1-102-681-11	2 p		
C130	1-101-798-11	0.2		(boundary layer)
C131	1-102-683-11	4 p		
C132	1-101-005-11	0.022		
C134	1-101-005-11	0.022		
C135	1-102-121-11	0.0022		
C136	1-101-005-11	0.022		
C137	1-102-937-11	4 p		
C138	1-102-951-11	15 p		
C139	1-121-651-11	10	16 V	elect
C140	1-121-726-11	0.47	50 V	elect
C141	1-101-797-11	0.1		(boundary layer)
C142	1-108-232-12	0.0033		mylar
C150～153	1-101-004-11	0.01		
C155	1-108-242-12	0.022		mylar
C192～194	1-101-005-11	0.022		
C201	1-121-651-11	10	16 V	elect
C202	1-121-391-11	1	50 V	elect
C203, 204	1-121-726-11	0.47	50 V	elect
C205	1-108-361-12	0.056		mylar
C206	1-103-817-11	470 p		polystyrol
C207, 208	1-108-242-12	0.022		mylar
C209, 210	1-121-726-11	0.47	50 V	elect
C212	1-121-426-11	470	16 V	elect
C214	1-102-116-11	680 p		
C291	1-108-230-12	0.0022		mylar
C293	1-101-005-11	0.022		
C501, 601	1-121-395-11	4.7	25 V	elect
C502	1-121-415-11	100	16 V	elect
C503, 603	1-101-001-11	0.001		
C504, 604	1-101-880-11	47 p		
C505, 605	1-121-402-11	33	10 V	elect
C506, 606	1-121-391-11	1	50 V	elect
C507, 607	1-102-119-11	0.0015		
C508, 608	1-102-816-11	120 p		

Ref. No.	Part No.	Description		
C509, 609	1-102-126-11	0.0056		
C510	1-121-936-11	220	25 V	elect
C511, 611	1-101-001-11	0.001		
C551, 651	1-102-119-11	0.0015		
C552, 652	1-102-129-11	0.01		
C553, 653	1-102-126-11	0.0056		
C554, 654	1-101-796-11	0.05	12 V	(boundary layer)
C555, 655	1-101-361-11	150 p		
C556, 656	1-102-128-11	0.0082		
C557, 657	1-101-797-11	0.1		(boundary layer)
C558, 658	1-101-001-11	0.001		
C559, 659	1-121-391-11	1	50 V	elect
C560	1-123-190-11	47	25 V	elect
C701, 801	1-108-251-11	0.1		mylar
C702	1-121-409-11	47	16 V	elect
C703, 803	1-102-976-11	180 p		
C704, 804	1-102-106-11	100 p		
C705, 805	1-121-415-11	100	16 V	elect
C706, 806	1-123-190-11	47	25 V	elect
C707	1-123-264-11	220	63 V	elect
C708, 808	1-121-984-11	2200	35 V	elect
C709, 809	1-101-005-11	0.022		
C901	1-123-259-11	2200	63 V	elect
C902	1-102-394-11	0.01	250 V	ceramic
		(encapsulated component)		
C906	1-123-190-11	47	25 V	elect
C907	1-101-001-11	0.001		
C1101	1-121-414-11	100	10 V	elect
C1102, 1202	1-121-913-11	3.3	25 V	elect
C1103, 1203	1-121-651-11	10	16 V	elect
C1104, 1204	1-108-227-12	0.001		mylar
C1105, 1205	1-121-352-11	47	10 V	elect
C1106, 1206	1-102-971-11	82 p		
C1107, 1207	1-121-651-11	10	16 V	elect
C1108, 1208, C1109	1-121-402-11	33	10 V	elect
C1110, 1210	1-121-392-11	3.3	25 V	elect
C1111, 1211	1-108-239-12	0.01		mylar

Note: The components identified by shading are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description		
C1112, 1212	1-121-352-11	47	10 V	elect
C1113, 1213	1-102-973-11	100 p		
C1114, 2114 C1115, 2115	1-121-726-11	0.47	50 V	elect
C1116, 1216	1-121-391-11	1	50 V	elect
C1117	1-121-990-11	22	16 V	elect
C1118, 1218	1-102-115-11	560 p		
C1119, 1219	1-108-357-12	0.012		mylar
C1120, 1220	1-102-116-11	680 p		
C1152	1-123-065-11	330	25 V	elect
C1153	1-107-181-11	330 p	500 V	silvered mica
C1154	1-121-940-11	470	25 V	elect
C1155	1-102-394-11	0.01		ceramic
		(encapsulated component)		
C1156	1-102-125-11	0.0047		
C1157	1-121-944-11	1000	16 V	elect
C1163	1-101-923-11	0.01		
CT101 ~ 104 CV101 ~ 104	1-151-310-00	TUNING		

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted. Check schematic diagram for values.

R705	1-212-881-11	100		fusible
R706, 806	1-212-889-11	220		fusible
R708, 808	1-212-958-11	10	½W	fusible
R709, 809	1-202-561-11	330	½W	solid
R901	1-202-597-11	10	½W	solid
R902	1-213-076-11	47	½W	fusible
R905	1-202-546-11	75	½W	solid
R908	1-202-723-11	2.2	½W	solid
R910	1-202-571-11	820	½W	solid
R1156	1-206-651-11	300	2W	metal-oxide
R1160	1-206-666-11	1.2 k	2W	metal-oxide, nonflammable
RV201	1-224-645-XX	10 k, adjustable (19 kHz)		
RV501, 601 RV502, 602	1-224-723-00	250 k, variable; BASS TREBLE		
RV503	1-224-430-00	250 k, variable; BALANCE		
RV504, 604	1-224-440-00	250 k, variable; VOLUME		
RV1151	1-224-646-XX	22 k, adjustable; RECORD AGC BALANCE		
RV1201	1-224-644-XX	4.7 k, adjustable; PLAYBACK LEVEL		

SWITCHES

S1, 2	1-516-940-00	Slide, REC/PB
S1	1-552-134-00	Slide, rotary FUNCTION: AM/FM/8 TRACK/ PHONO/EXT PHONO (main board)
S2	1-552-136-00	Pushbutton, 2-key; SYSTEM, LOUDNESS (main board)
S3	1-552-133-00	Pushbutton, POWER (main board)
S3, 5	1-552-162-00	Pushbutton, PROGRAM, PAUSE
S4	1-516-990-00	Switch, sensing pole (main board)
S6	1-506-373-00	Short Plug, ISS
S7, 11	1-552-162-00	Pushbutton; FF, END STOP
S8, 10	1-516-989-00	Switch, leaf; motor

JACKS

J101	1-536-486-00	Terminal Strip, 4-p; ANTENNA
J105, 205	1-507-501-00	MIC L (MONO), MIC R
J701	1-507-489-21	Headphones

MISCELLANEOUS

BPF101	1-231-313-00	Band Pass Filter with balun
CF101, 102	1-527-220-XX	Ceramic Filter 10.7 MHz
CP1101	1-464-015-00	Osc
CP1, 2	1-231-326-00	CR Encapsulated Component (US model)
CP2	1-231-341-21	CR Encapsulated Component (Canadian model)
CR102	1-231-202-00	CR Encapsulated Component
F1	1-532-267-XX	Fuse
M	1-541-823-00	Motor, w/pulley
ME1	1-520-301-00	Meter SIGNAL

Note: The components identified by shading are critical for safety. Replace only with part number specified.

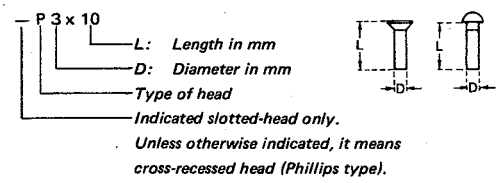
Ref. No.	*Part No.*	*Description*
P701～703	1-507-500-00	2 P Pin Jack SP OUT, REC OUT, EXT PHONO
PL1, 2	1-518-283-21	Lamp, pilot; 8 V 0.3 A
PL1101～1104	1-518-169-XX	Lamp, pilot; 4.5 V 40 mA, CHANNEL INDICATOR
PL1105	1-518-169-XX	Lamp, pilot; 4.5 V 40 mA, RECORD
RM	1-454-159-00	Solenoid
RPEH	1-543-057-00	Head, record/playback/erase
RY	1-515-270-00	Relay
	1-534-526-XX	Cord, power (US model)
	1-534-985-XX	Cord, power (Canadian model)
	1-536-407-XX	Terminal Strip
	1-549-069-00	Cartridge VM (VL-30G)

Part No.	*Description*
	ACCESSORIES
2-070-134-00	Spindle, auto
2-070-135-00	Spindle, manual
3-701-617-00	Bag, plastic
3-701-630-00	Bag, plastic
3-701-806-01	Adaptor, 45
3-701-900-00	Label, caution
3-770-235-21	Manual, instruction
3-793-026-10	Card, caution, screw lock
3-793-229-11	Card, caution, over arm
3-793-898-21	Tag, material
3-794-094-31	Leaflet, French version (Canadian model)
4-807-493-00	Sheet, protection
4-818-624-00	Sheet, protection
4-851-050-00	Sheet, protection; dust cover
4-851-051-00	Bag, plastic
4-851-052-00	Cushion, front
4-851-053-00	Cushion, back
4-851-054-00	Cushion, left
4-851-055-00	Cushion, right
4-851-070-00	Cushion, bottom
4-851-617-00	Carton

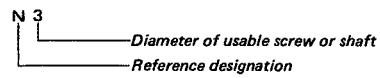
Note: The components identified by shading are critical for safety. Replace only with part number specified.

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
		SELF-TAPPING SCREWS	
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
		SET SCREWS	
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
		NUT	
N		nut	
		WASHERS	
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
		RETAINING RINGS	
E		retaining ring	
G		grip-type retaining ring	